

Table(3) Industrial Use, Household/Institutional Use

UC code (#)	Use Category (UC)	SUC code	Sub Use Category (SUC)	[Industrial Use]						[Household/Institutional Use]						
				Emission Factors to Air						Emission Factors to Air						
				Vapor Pressure (Pa)						Vapor Pressure (Pa)						
<1	1-10	10-100	100-1,000	1,000-10,000	≥10,000	<1	1-10	10-100	100-1,000	1,000-10,000	≥10,000					
20	Biocidal products (III) (Household use, Institutional use)	a	Biocides for nuisance							0.05	0.05	0.05	0.1	0.8	0.8	
		b	Biocides for fabric insect pest, moth repellent													
		c	Anti-ant agents								0.1	0.1	0.1	0.1	0.1	0.1
		d	Antimicrobial agents (antifungal agents, antibacterial agents), disinfectants, preservatives								0.05	0.05	0.05	0.1	0.8	0.8
		e	Non-crop land herbicides								0.1	0.1	0.1	0.1	0.1	0.1
		f	Spreading agents, emulsifiers								0.05	0.05				
		z	Others													
21	Explosive products (incl. fireworks)	a	Low explosives, high explosives, explosive devices(excl. #21-b), fireworks	0.00005	0.0005	0.001	0.005	0.01	0.01							
		b	Gas generators for automotive safety devices	0.00005	0.0005	0.001	0.005	0.01	0.01							
		z	Others	0.00005	0.0005	0.001	0.005	0.01	0.01							
22	Air fresheners, deodorizers	a	Fragrances (for washing and cleaning products) (excl. #22-b,c)							0	0	0	0	0	0	
		b	Air fresheners													
		c	Deodorizers													
		d	Emulsifiers, dispersing agents													
		z	Others													
23	Adhesives and sealants	a	Resins for adhesives, resins for sealants	0.000005	0.00005	—	—	—	—							
		b	Binder components(e.g. monomers, prepolymers, curing agents, curing accelerators, initiators)	0.001	0.005	0.01	0.01	0.025	0.05							
		c	Plasticizers, fillers	0.00005	0.0001	0.001	0.0025	0.005	0.01							
		d	Stabilizers	0.00005	0.0001	0.001	0.0025	0.005	0.01							
		e	Anti-skinning agents, thickening agents, anti-foaming agents, anti-blocking agents, leveling	0.00005	0.0001	0.001	0.0025	0.005	0.01							
		f	Surface control agents, dispersing agents	0.000005	0.00005	0.0005	0.0025	0.005	0.01							
		g	Preservatives, antimicrobial agents (antifungal agents, antibacterial agents)	0.000005	0.00005	0.0005	0.0025	0.005	0.01							
		h	Flame retardants, electroconductive agents	0.000005	0.00005	0.0005	0.0025	0.005	0.01							
		z	Others	0.001	0.005	0.01	0.01	0.025	0.05							
		a	Photo-, electron sensitive resins(e.g. Monomer/oligomers of photo-, electron sensitive resins)	0.000005	0.00005	—	—	—	—							
24	Photorealist materials, photoeraphic	b	Monomer/oligomers of photo-, electron sensitive resins	0.000005	0.000025	0.00075	0.0025	0.0075	0.0075							
		c	Photorelists, photoreceptors for electrography, photopolymerization initiators, photoacid	0.000005	0.000025	0.00075	0.0025	0.0075	0.0075							
		d	Dye-forming couplers	0.0001	0.001	—	—	—	—							
		e	Emulsifiers, dispersing agents	0.0001	0.001	0.005	0.1	0.1	0.1							
		f	Dyeing agents, stabilizers	0.0001	0.001	0.005	0.1	0.1	0.1							
		g	Hardening agents, sensitizers, desensitizers, crosslinking density enhancers, polymerization	0.0001	0.001	0.005	0.1	0.1	0.1							
		h	Developers, water-soluble processing agents, resist removers	0.0001	0.001	0.005	0.1	0.1	0.1							
		z	Others	0.0001	0.001	0.005	0.1	0.1	0.1							
		a	Base materials for articles (synthetic fibers)	0.000005	0.00005	—	—	—	—							
		25	Textile products	b	Coloring agents (e.g. dyes, pigments), fluorescent	0.000005	0.00005	0.001	0.0025	—	—					
c	Sizing agents			0.01	0.01	0.01	0.03	0.08	0.08							
d	Anti-flaming agents, flame retardants			0.000005	0.00005	0.001	0.002	0.005	0.005							
e	Impregnated reinforcing agents, dye fixing agents			0.01	0.01	0.01	0.03	0.08	0.08							
f	Anti-static agents, hydrophilic agents			0.01	0.01	0.01	0.03	0.08	0.08							
g	Softening agents			0.0001	0.001	0.001	0.002	0.005	0.005							
h	Form stabilizing agents			0.01	0.01	0.01	0.03	0.08	0.08							
i	Water repellent agents, oil repellent agents, water proofing agents, soil resistant finishing agents			0.01	0.01	0.01	0.03	0.08	0.08							
j	Antimicrobial agents (antifungal agents, antibacterial agents), anti-discoloration agents			0.01	0.01	0.01	0.03	0.08	0.08							
k	Spinning, knitting and weaving oils, spinning, knitting and weaving oil aids			0.01	0.01	0.01	0.03	0.08	0.08							
l	Washing agents, scouring and washing agents, lubricants			0.000005	0.00005	0.001	0.002	0.005	0.005							
m	Chlething agents			0.0001	0.001	0.001	0.002	0.005	0.005							
n	Bleaching agents, discharging agents			0.0001	0.001	0.001	0.002	0.005	0.005							
o	Leveling agents, penetrants, dyeing accelerators, mordanting assistants, printing bases			0.0001	0.001	0.001	0.005	0.005	0.005							
p	Emulsifiers, dispersing agents, anti-forming agents			0.0001	0.001	0.001	0.002	0.005	0.005							
q	Mercerizing assistants			0.0001	0.001	0.001	0.002	0.005	0.005							
r	Dessizing agents			0.0001	0.001	0.001	0.002	0.005	0.005							
z	Others			0.01	0.01	0.01	0.03	0.08	0.08							
26	Paper and board products	a	Colorants(e.g. dyes, pigments), fluorescent	0.000005	0.00005	0.0001	—	—	—							
		b	Sizing agents, fixing agents, fillers	0.00001	0.00001	0.00001	0.0001	0.001	0.001							
		c	Coating agents	0.00001	0.00001	0.00001	0.0001	0.001	0.001							
		d	Anti-flaming agents, flame retardants, anti-static	0.00001	0.00001	0.00001	0.0001	0.001	0.001							
		e	Paper strength additives, retention aids, fixing agents, corrosion inhibitors	0.00001	0.00001	0.00001	0.0001	0.001	0.001							
		f	Water repellent agents, oil repellent agents, water	0.00001	0.00001	0.00001	0.0001	0.001	0.001							
		g	Bulking promoters, softening agents	0.00001	0.00001	0.00001	0.0001	0.001	0.001							
		h	Coskling flows, oil regulators	0.000005	0.00001	0.00001	0.0001	0.001	0.001							
		i	Slimicides, pitch control agents	0.00001	0.00001	0.00001	0.0001	0.001	0.001							
		j	Bleaching agents, stabilizers for bleaching bath	0.00001	0.00001	0.00001	0.0001	0.001	0.001							
27	Plastic products	k	Emulsifiers, dispersing agents, anti-forming	0.000005	0.00001	0.00001	0.0001	0.001	0.001							
		z	Others	0.00001	0.00005	0.0001	0.0001	0.001	0.001							
		a	Base materials for molded products(e.g. plastics, artificial leathers, artificial papers, foam products)	0.000005	0.00005	—	—	—	—							
		b	Super water-absorbing materials	0.000005	0.00005	—	—	—	—							
		c	Plasticizers, dispersing agents	0.0005	0.001	0.003	0.005	0.005	0.005							
		d	Stabilizers	0.000005	0.0001	0.00025	0.001	0.001	0.001							
		e	Fillers, diluents, polymer decomposition	0.00005	0.0001	0.00025	0.001	0.001	0.001							
		f	Nucleating agents	0.00005	0.0001	0.00025	0.001	0.001	0.001							
		g	Internal lubricants, internal mold release agents	0.00005	0.0001	0.00025	0.001	0.001	0.001							
		h	Anti-clooding agents, anti-fogging agents	0.00005	0.0001	0.00025	0.001	0.001	0.001							
28	Rubber products	i	Flame retardants, anti-static agents, wavelength conversion agents	0.00005	0.00025	0.0005	0.001	0.001	0.001							
		j	External lubricants, external mold release agents	0.0005	0.001	0.0025	0.01	0.01	0.01							
		k	Foaming agents, radical generators	0.000005	0.000025	0.0001	0.001	0.01	0.01							
		l	Casting, foam casting materials (e.g. monomers, prepolymers)	0.00005	0.0005	0.005	0.01	0.01	0.05							
		m	Curing agents, crosslinking agents, crosslinking aids, sensitizers, polymerization initiators	0.00005	0.0005	0.005	0.01	0.01	0.05							
		n	Curing accelerators	0.00005	0.0005	0.005	0.01	0.01	0.05							
		v	Other additives (e.g. re-forming agents)	0.0005	0.001	0.003	0.005	0.005	0.005							
		z	Others	0.0005	0.005	0.005	0.01	0.01	0.05							
		a	Base materials for molded products (e.g. Vulcanization accelerators, vulcanization accelerator, activators)	0.000005	0.00001	0.00001	—	—	—							
		28	Rubber products	b	Vulcanizing agents, crosslinking agents, crosslinking coagents	0.000005	0.00001	0.00001	0.00001	0.00001	0.00002					
c	Plasticizers, reinforcing materials, fillers			0.0001	0.00025	0.00025	0.0005	0.001	0.001							
d	Stabilizers (e.g. anti-degradants, anti-oxidants)			0.000005	0.000025	0.0001	0.0005	0.001	0.001							
e	Anti-scorch agents, masticating accelerators (peptizing agents), internal lubricants, internal			0.00005	0.00025	0.00025	0.0005	0.001	0.001							
f	Latex coagulants, emulsifying, dispersing agents			0.000005	0.000025	0.0001	0.0005	0.001	0.001							
g	Flame retardants, anti-static agents			0.000005	0.000025	0.0001	0.0005	0.001	0.001							
h	External lubricants, external mold release agents			0.00005	0.0001	0.00025	0.001	0.001	0.01							
i	Blowing agents			0.000005	0.000025	0.0001	0.0005	0.001	0.01							
j	Rubber reclaiming agents			0.00005	0.00025	0.00025	0.015	0.025	0.035							
k	Other additives			0.0001	0.00025	0.00025	0.0005	0.001	0.01							
z	Others	0.0005	0.001	0.0025	0.015	0.025										

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UC code (#)	Use Category (UC)	SUC code	Sub Use Category (SUC)	[Industrial Use]						[Household/Institutional use]					
				Emission Factors to Air						Emission Factors to Air					
				Vapor Pressure (Pa)						Vapor Pressure (Pa)					
<1	1-10	10-100	100-1,000	1,000-10,000	≥10,000	<1	1-10	10-100	100-1,000	1,000-10,000	≥10,000				
29	Leather products	a	Tanning agents	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		b	Tanning finishing agents (e.g. bleaching agents, colorants and auxiliaries, water repellent agents, pretanning agents (e.g. defatting agents, deliming agents))	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		c	Others	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		z	Others	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
30	Glass, enamel and cement products	a	Glass raw materials	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		b	Glass additives (e.g. tempering agents, sizing agents, anti-clouding agents, UV cutting agents)	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		c	Glass processing aids (e.g. mold release agents, pH regulators)	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		d	Enamel raw materials	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		e	Enamel additives (e.g. transfer printing agents, materials for TOI production)	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		f	Enamel processing aids (e.g. neutralizing agents, nickel-treatment agents)	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		g	Cement raw materials	0.0001	0.001	0.01	0.1	0.5	0.75						
		h	Cement additives (e.g. additives for blended cements, expansive agents, hardening agents)	0.0001	0.001	0.01	0.1	0.5	0.75						
		z	Others	0.0001	0.001	0.01	0.1	0.5	0.75						
		z	Others	0.0001	0.001	0.01	0.1	0.5	0.75						
31	Ceramics and porcelain, refractory and fine ceramics products	a	Raw materials of ceramics, raw materials of porcelain, refractory raw materials, fine ceramics	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		b	Ceramics additives, porcelain additives, refractories additives, fine ceramics additives	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		c	Molding aids (e.g. binders, thickeners, plasticizers, lubricants, dispersing agents)	0.0001	0.002	0.01	0.02	0.1	0.25						
		z	Others	0.0001	0.002	0.01	0.02	0.1	0.25						
32	Grinding wheel, abrasive compound, friction material and solid lubricant	a	Raw materials of grinding wheel, raw materials of abrasive compound, raw materials of friction	0.000005	0.000005	0.000005	0.00005	0.00005	0.00005						
		b	Grinding wheel additives, abrasive compound additives, friction material additives, solid lubricant additives	0.0001	0.002	0.01	0.02	0.1	0.25						
		c	Lubricants, mold release agents	0.0001	0.002	0.01	0.02	0.1	0.25						
		z	Others	0.0001	0.002	0.01	0.02	0.1	0.25						
33	Metal products [Raw materials of metal and alloy : #1 colorants : #11, surface treatment products : #34, welding and soldering products : #35, metal working fluids #37]	a	Metal additives (e.g. inoculation agents)	0.000005	0.0001	0.0001	0.0001	0.0001	0.0001						
		b	Metalworking aids (e.g. fluxes)	0.0005	0.01	0.01	0.02	0.1	0.15						
		c	Molding sand binders, curing agents for binders, molding sand additives	0.000005	0.0001	0.002	0.02	0.1	0.15						
		d	Release agents	0.0001	0.002	0.01	0.02	0.1	0.15						
		z	Others	0.0005	0.01	0.01	0.02	0.1	0.15						
34	Surface treatment chemicals [Defatting and/or cleaning agents used for pre- or post-treatment of plating : #04 (non-aqueous, semi-aqueous) or #12 (aqueous)] [excl. #4-6,12-15,17,25-27,30-32,38,44]	a	Plating agents	0.0001	0.001	0.01	0.02	0.05	0.05						
		b	Plating bath additives	0.0001	0.001	0.01	0.02	0.05	0.05						
		c	Chemical conversion coating agents	0.0001	0.001	0.01	0.02	0.05	0.05						
		d	Vacuum plating agents (for e.g. chemical vapor deposition), thermal spraying agents	0.01	0.01	0.01	0.02	0.1	0.1						
		e	Surface-hardening treatment agents (for e.g. carburizing, nitriding)	0.01	0.01	0.01	0.02	0.05	0.05						
		f	Fluorinating agents, silvating agents	0.05	0.05	0.05	0.05	0.1	0.1						
		g	Etching agents, sputter etching agents, abrasive blasting materials	0.0005	0.005	0.01	0.01	0.01	0.01						
		z	Others	0.05	0.05	0.05	0.05	0.1	0.1						
35	Welding and soldering products	a	Welding fluxes	0.01	0.01	0.01	0.01	0.01	0.01						
		b	Brazing and soldering fluxes (e.g. anti-oxidant materials for solder bath)	0.01	0.01	0.01	0.01	0.01	0.01						
		c	Welding gas, gas for fusion cutting	—	—	—	—	—	0.001						
		z	Others	0.01	0.01	0.01	0.01	0.01	0.01						
36	Hydraulic fluids, insulating oils, process oils, lubricating oils (e.g. engine oils, bearing oils, compressor oils, greases)	a	Base oils for hydraulic fluids, lubricating oils	0.000005	0.000005	—	—	—	—						
		b	Base oils for insulating oils	0.000005	0.000005	—	—	—	—						
		c	Base oils for process oils	0.000005	0.000025	—	—	—	—						
		d	Thickeners	0.000005	0.000005	—	—	—	—						
		e	Additives for hydraulic fluids, lubricating oils	0.000005	0.000005	0.0001	0.0005	0.005	0.005						
		f	Additives for insulating oils	0.000005	0.000005	0.0001	0.0005	0.005	0.005						
		z	Others	0.000005	0.000025	0.00025	0.0005	0.005	0.005						
37	Metalworking fluids (e.g. cutting oils, rolling oils, press oils, quenching oils), rust preventive oils	a	Base oils for water-soluble metalworking fluids	0.00002	0.0002	—	—	—	—						
		b	Base oils for water-insoluble metalworking fluids	0.00002	0.0002	—	—	—	—						
		c	Additives for water-soluble metalworking fluids	0.00002	0.0002	0.0005	0.001	0.005	0.01						
		z	Others	0.00002	0.0002	0.0005	0.001	0.005	0.01						
38	Electrical and electronic products [incl. chemicals used for production of subject materials]	a	Magnetic materials (excl. #38-f), electrical conductive materials, superconductive materials	0.000005	0.000005	0.000005	0.0001	0.0001	0.0001						
		b	Semiconductor materials, organic semiconductor materials, solid electrolyte materials, electrolytic materials, optical materials, optical fibers	0.000005	0.000005	0.000005	0.0001	0.001	0.0025						
		c	Dielectric materials, electrical resistance materials, optical waveguide materials (incl. optical fibers), optical film materials, optical materials for encapsulation materials, insulating materials	0.000005	0.000005	0.000005	0.0001	0.001	0.001						
		d	Electronic storage media materials	0.000005	0.000005	0.000005	0.0001	0.0001	0.0001						
		e	Others	0.000005	0.000005	0.000005	0.0001	0.0001	0.0001						
		f	Solid electrolytes, electrolytic solution materials, electrical insulators, battery separators	0.000005	0.000005	0.000005	0.0001	0.0001	0.0001						
		z	Others	0.000005	0.000005	0.000005	0.0001	0.0001	0.0001						
39	Electrical batteries	a	Corrosion and rust preventive agents, scale inhibitors, algaecides	0.000001	0.000001	—	—	—	—						
		b	Metal ion scavengers, sequestering agents, water softeners	0.000001	0.000001	—	—	—	—						
		c	Ion exchangers, separation membranes	0.000001	0.000001	—	—	—	—						
		d	Oxidants, reductants, pH regulators	0.000001	0.000001	0.000001	0.0001	0.001	0.01						
		z	Others	0.000001	0.000001	0.000001	0.0001	0.001	0.01						
40	Water treatment chemicals	a	Anti-foaming agents, flocculants, filter aids, dewatering aids, ion exchange resin regeneration	0.000005	0.000005	0.0002	0.0002	0.001	0.02						
		b	Others	0.000002	0.000005	0.0002	0.0002	0.001	0.02						
		c	Desiccants	0.000005	0.000005	0.0005	0.005	0.025	0.04						
		z	Others	0.000005	0.000005	0.0005	0.005	0.025	0.04						
41	Desiccants and absorbents	a	Adsorbents (e.g. deodorizers, denitration agents, gas absorbents)	0.000005	0.000005	0.0005	0.005	0.025	0.04						
		b	Absorbents (e.g. oxygen scavengers)	0.000005	0.000005	0.0005	0.005	0.025	0.04						
		z	Others	0.000005	0.000005	0.0005	0.005	0.025	0.04						
42	Heat transfer fluids	a	Refrigerants, coolants	0.00001	0.0001	0.01	0.02	0.1	0.2						
		b	Heating mediums	0.00001	0.0001	0.0005	0.001	0.005	0.01						
		z	Others	0.00001	0.0001	0.01	0.02	0.1	0.2						
43	Anti-freeze and de-icing products	a	Anti-freezing agents	0.00001	0.0005	0.01	0.01	0.1	0.05						
		b	Anti-corrosive agents, corrosive inhibitors	0.00001	0.0005	0.01	0.01	0.1	0.05						
		z	Others	0.00001	0.0005	0.01	0.01	0.1	0.05						
44	Additives for building materials and constructional articles (e.g. concrete admixtures, Wood impregnating agents)	a	Surface hardening agents	0.0001	0.001	0.01	0.1	0.5	0.75						
		b	Concrete admixtures (e.g. air entraining agents, water-reducing agents)	0.0001	0.001	0.01	0.1	0.5	0.75						
		c	Release agents, anti-foaming agents	0.0001	0.001	0.01	0.1	0.5	0.75						
		d	Wood impregnating agents, additives to wooden plates	0.0001	0.001	0.01	0.1	0.5	0.75						
		z	Others	0.0001	0.001	0.01	0.1	0.5	0.75						

