TABLE 1

LIST OF CONTROLLED HAZARDOUS SUBSTANCES

(HAZARDOUS SUBSTANCES LISTED IN THE 2ND SCHEDULE OF THE EPMA)

Substance	Exclusion
1,2-dibromoethane (EDB)	
Acetic acid	Substances containing not more than 80%, weight in weight, of acetic acid; Preparations and solutions for photographic use.
Acetic anhydride	
**Acetochlor	
Acetyl bromide	
Alachlor	
Allyl isothiocyanate	
Alkali metal bifluorides; Ammonium bifluoride; Potassium fluoride; Sodium fluoride; Potassium silicofluoride; Sodium silicofluoride; Silicofluoric acid	Preparations containing not more than 0.3%, weight in weight, of potassium fluoride in radiator protectors; Preparations containing not more than 0.96%, weight in weight, of potassium fluoride in photographic chemicals; Substances containing not more than 3%, weight in weight, of sodium fluoride or sodium silicofluoride as a preservative; Substances containing sodium fluoride intended for the treatment of human ailments.
**Amitraz	
Ammonia	Preparations and solutions of ammonia containing not more than 10%, weight in weight, of ammonia; Refrigeration equipment; Photographic and plan developers; Hair colour dyes; Perm lotions; Smelling bottles.
Ammonium chlorate	
Anionic surface active agents	Preparations containing less than 5% by weight of anionic surface active agents; Preparations containing anionic surface active agents which are not less than 90% biodegradable

	under a test carried out in accordance with that part of the OECD method which is referred to as "Confirmatory Test Procedure" in European Communities Council Directive No. 73/405/EEC (C) or other equivalent test methods acceptable to the Director-General.
Antimony pentachloride	Polishes
Antimony trihydride	
Arsenical substances, the following: Arsenic acid Arsenic sulphide Arsenic trichloride Arsine Calcium arsenite Copper arsenate Copper arsenite Lead arsenate Organic compounds of arsenic Oxides of arsenic Potassium arsenite Sodium arsenate Sodium arsenite Sodium thioarsenate	Pyrites ores or sulphuric acid containing arsenical poisons as natural impurities; Animal feeding stuffs containing not more than 0.005%, weight in weight, of 4-hydroxy-3-nitrophenyl-arsonic acid and not containing any other arsenical poison; Animal feeding stuffs containing not more than 0.01%, weight in weight, of arsanilic acid and not containing any other arsenical poison; Animal feeding stuffs containing not more than 0.0375%, weight in weight, of carbarsone and not containing any other arsenical poison.
Asbestos in the form of crocidolite, actinolite, anthophyllite, amosite, tremolite, chrysotile and amphiboles and products containing these forms of asbestos	Asbestos in the form of chrysotile in any vehicle brake or clutch lining installed in any vehicle registered before 1st April 1995.
**Atrazine	
**Benzidine; its salts	
**Bis(chloromethyl)ether	
Boric acid; Sodium borate	Boric acid or sodium borate in medicinal preparations, cosmetics, toilet preparations and substances being preparations intended for human consumption;

	Preparations containing boric acid or sodium borate or a combination of both where water or solvent is not the only other part of the composition.
Boron tribromide	
Boron trichloride	
Boron trifluoride	
Bromine; Bromine solutions	
Cadmium and its compounds in controlled EEE	Controlled EEE containing cadmium not exceeding 0.01% maximum concentration value by weight of homogeneous material in controlled EEE; Cadmium and its compounds in electrical contact; Cadmium in filter glass or glass used for reflectance standards; Cadmium in printing ink for the application of enamel on glass; Cadmium alloy as electrical or mechanical solder joint to electrical conductor located directly on voice coil in transducer used in high-powered loudspeaker with sound pressure level of 100 dB (A) or more; Cadmium and cadmium oxide in thick film paste used on aluminium bonded beryllium oxide.
Cadmium-containing silver brazing alloy	
Captafol	
Carbamates	Benomyl; Carbendazim; Chlorpropham; Propham; Thiophanate-methyl; Preparations containing not more than 1%, weight in weight, of propoxur and not containing any other carbamate; Preparations containing not more than 1%, weight in weight, of methomyl and not containing any other carbamate.
Carbon monoxide	Gas mixtures containing carbon monoxide weighing less than 1 metric tonne; Gas mixtures containing carbon monoxide as by-products from combustion activities.

Carbon tetrafluoride	
Chlorinated hydrocarbons, the following: Aldrin Benzene hexachloride (BHC) Bromocyclen Camphechlor (Toxaphene) Chlorbenside Chlorbicyclen Chlordane Chlordecone Chlordimeform Chlorfenethol Chlorfenson Chlorfensulphide Chlorobenzilate Chloropropylate Dicophane (DDT) pp'-DDT Dicofol Dieldrin Endosulfan Endrin Fenazaflor Fenson Fluorbenzide Gamma benzene hexachloride (Gamma - BHC), also known as lindane	Paper impregnated with not more than 0.3%, weight in weight, of benzene hexachloride or gamma - BHC provided it is labelled with directions that no food, wrapped or unwrapped, or food utensils are to be placed on the treated paper, and that it is not to be used where food is prepared or served.

HCH (mixed isomers) HEOD [1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a- octahydro-1, 4 (exo): 5,8 (endo)-dimethano naphthalene] HHDN [1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-1,4 (exo):5,8 (endo)-dimethano naphthalene] Heptachlor Hexachloroethane Isobenzan Isodrin Kelevan Methoxychlor [1,1,1-trichloro-2,2-di-(p-methoxyphenyl) ethane] Mirex Polychlorinated butadienes Tetrachlorodiphenylethane [TDE; 1,1-dichloro-2,2-bis (p-chlorophenyl) ethane] Tetradifon Tetrasul Allied chlorinated hydrocarbon compounds used as pesticides (insecticides, acaricides, etc.)	
Chlorine	Chlorine used for chlorination of water in swimming pools.
Chlorine trifluoride	
Chlorobenzenes, the following: Monochlorobenzene Meta-dichlorobenzene Ortho-dichlorobenzene Trichlorobenzene	

Tetrachlorobenzene Pentachlorobenzene Hexachlorobenzene	
Chlorophenols, the following: Monochlorophenol Dichlorophenol Trichlorophenol Tetrachlorophenol Pentachlorophenol and its salts and esters	Substances containing not more than 1%, weight in weight, of chlorophenols.
Chlorophenoxyacids; their salts, esters, amines, which include but are not limited to - 2,4,5-T and its salts and esters	
Chloropicrin	
Chlorosilanes, the following: Hexachlorodisilane Phenyltrichlorosilane Tetrachlorosilane	
Chlorosulphonic acid	
Chromic acid	Substances containing not more than 9%, weight in weight, of chromic acid; Photographic solutions containing chromic acid in individual containers containing not more than 15 kilograms each of such solutions and of aggregate weight of not more than 500 kilograms of such solutions.
Cyanides	Ferrocyanides; Ferricyanides; Acetonitrile; Acrylonitrile; Butyronitrile;

	2-Dimethylaminoacetonitrile; Isobutyronitrile; Methacrylonitrile; Propionitrile.
Diborane	
Dibromochloropropane	
Diethyl sulphate	
Dinitro-ortho-cresol (DNOC) and its salts (such as ammonium salt, potassium salt and sodium salt)	
Dinosam; its compounds with a metal or a base	
Dinoseb and its salts and esters, which includes but is not limited to - Binapacryl	
Diquat; its salts	
Drazoxolon; its salts	Dressings on seeds.
Dustable powder formulations containing a combination of - Benomyl at or above 7 percent, carbofuran at above 10 percent, thiram at or above 15 percent.	
Endothal; its salts	
Epichlorohydrin	
Ethyl mercaptan	Substances containing less than 1%, weight in weight, of ethyl mercaptan
Ethylene dichloride	
Ethylene imine	
Ethylene oxide	Mixtures of inert gases and ethylene oxide comprising not more than 12%, weight in weight, of ethylene oxide contained in cylinders of water capacity less than 47 litres and for aggregate of not more than 3 numbers of such cylinders.
Ferric chloride	
Fipronil	Formulated products containing Fipronil approved for household use and belonging to Table 5 of the WHO Recommended Classification of Pesticides by hazard.
Fluorine	
Fluoroacetamide	
Formaldehyde	Substances containing not more than 5%, weight in weight, of formaldehyde;

	Photographic glazing or hardening solutions.
Formic acid	Substances containing not more than 5%, weight in weight, of formic acid.
Germane	
Hexabromocyclododecane (HBCD)	
Hexavalent chromium in controlled EEE	Controlled EEE containing hexavalent chromium not exceeding 0.1% maximum concentration value by weight of homogeneous material in controlled EEE ; Hexavalent chromium as anticorrosion agent, not exceeding 0.75% by weight, in the cooling solution of carbon steel cooling system in absorption refrigerator.
**Hexazinone	
Hydrazine anhydrous; Hydrazine aqueous solutions	
Hydrochloric acid	Substances containing not more than 9%, weight in weight, of hydrochloric acid.
Hydrofluoric acid	Preparations or solutions containing not more than 2%, weight in weight, of hydrofluoric acid.
Hydrofluorocarbons, including mixtures, the following: 1,1,2,2-tetrafluoroethane 1,1,1,2-tetrafluoroethane 1,1,2-Trifluoroethane 1,1,1,3,3-Pentafluoropropane 1,1,1,3,3-Pentafluorobutane 1,1,1,2,3,3,3-Heptafluoropropane 1,1,1,2,2,3-Hexafluoropropane 1,1,1,2,3,3-Hexafluoropropane 1,1,1,3,3,3-Hexafluoropropane 1,1,2,2,3-pentafluoropropane 1,1,1,2,2,3,4,5,5,5 decafluoropentane Difluoromethane Pentafluoroethane	Any manufactured product containing any substance mentioned in the opposite column, not being a container containing such a substance.

1,1,1-Trifluoroethane Fluoromethane (Methyl Fluoride) 1,2-Difluoroethane 1,1-Difluoroethane Trifluoromethane	
Hydrogen chloride	
Hydrogen cyanide; Hydrocyanic acid	Preparations of wild cherry; In reagent kits supplied for medical or veterinary purposes, substances containing less than the equivalent of 0.1%, weight in weight, of hydrocyanic acid.
Hydrogen fluoride	
Hydrogen selenide	
Isocyanates	Polyisocyanates containing less than 0.7%, weight in weight, of free monomeric diisocyanates; Pre-polymerised isocyanates in polyurethane paints and lacquers; Hardeners and bonding agents for immediate use in adhesives.
Lead and its compounds in controlled EEE	Controlled EEE containing lead not exceeding 0.1% maximum concentration value by weight of homogeneous material in controlled EEE; Lead in glass of cathode ray tube; Lead, not exceeding 0.2% by weight, in glass of fluorescent tube; Lead, not exceeding 0.35% by weight, as an alloying element in steel for machining purposes or galvanised steel; Lead, not exceeding 0.4% by weight, as an alloying element in aluminium; Lead, not exceeding 4% by weight, in copper alloy; Lead in high melting temperature type solder (that is, lead-based alloy containing 85% by weight or more lead); Electrical and electronic component containing lead in —– (a) glass or ceramic (other than dielectric ceramic in

	capacitor); or (b) glass or ceramic matrix compound; Lead in dielectric ceramic in capacitor for rated voltage of 125 V AC, 250 V DC or higher; Lead in bearing shell or bush for refrigerant-containing compressor for heating, ventilation, air conditioning or refrigeration application; Lead in white glass for optical application; Lead in filter glass or glass used for reflectance standards; Lead in printing ink for the application of enamel on glass; Lead in solder for — (a) completing viable electrical connection between semiconductor die and carrier within integrated circuit flip chip package; (b) soldering to machined-through hole discoidal or planar array ceramic multilayer capacitor; or (c) soldering thin copper wire (with diameter not exceeding 100 μm) in power transformer; Lead in soldering materials in mercury-free flat fluorescent lamp; Lead oxide in surface conduction electron emitter display used in structural element; Lead bound in crystal glass; Lead in cermet-based trimmer potentiometer element; Lead in plating layer of high-voltage diode on base of zinc borate glass body.
Lead compounds in paint	Lead compounds in paint in which the lead content is not more than 0.06% by weight of the paint; Lead compounds in paint in which the container is affixed with an appropriate label. The labels to be used for paints containing lead compounds are in accordance with Part IV of the Second Schedule.

Lead tetra-ethyl and similar lead containing compounds in petrol intended for use in Singapore as fuel for motor vehicles	
Mercury compounds including inorganic mercury compounds, alkyl mercury compounds, alkyloxyalkyl and aryl mercury compounds, and other organic compounds of mercury	
Mercury	
Mercury and its compounds in controlled EEE	Controlled EEE containing mercury not exceeding 0.1% maximum concentration value by weight of homogeneous material in controlled EEE; Cold cathode fluorescent lamp or external electrode fluorescent lamp, used for purposes other than general lighting, that —- (a) is not more than 500 mm long and contains not more than 3.5 mg of mercury; (b) is more than 500 mm long but not more than 1500 mm long and contains not more than 5 mg of mercury; or (c) is more than 1500 mm long and contains not more than 13 mg of mercury.
Mercury and its compounds in batteries	Batteries other than mercury oxide batteries, zinc carbon batteries containing more than 0.001% by weight of mercury per cell and alkaline batteries, except those in button form, containing more than 0.025% by weight of mercury per cell.
*Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps used for electronic displays	Cold cathode fluorescent lamps or external electrode fluorescent lamps used for electronic displays, that – a) are not more than 500mm long and contain not more than 3.5mg of mercury per lamp b) are more than 500mm long but not more than 1500mm long and contain not more than 5mg of mercury per lamp; or c) are more than 1500mm long and contain not more than 13 mg of mercury per lamp
*Mercury in fluorescent lamps (primarily for lighting purposes)	Compact fluorescent lamps containing mercury not exceeding 5 mg; Triband phosphor linear fluorescent lamps of less than 60W per lamp containing mercury not exceeding 5 mg per lamp Circular fluorescent lamps and other linear fluorescent lamps containing mercury not exceeding 10 mg per lamp

*Mercury in high pressure mercury vapour lamps (primarily for general lighting purposes)	
*Mercury in switches and relays	Very high accuracy capacitance and loss measurement bridges and high frequency radio frequency switches and relays in monitoring and control instruments containing mercury not exceeding 20mg per bridge, switch or relay.
*Mercury in the following non-electronic measuring devices: Barometers Hygrometers Manometers Thermometers Sphygmomanometers	Non-electronic measuring devices installed in large-scale equipment or those used for high precision measurement, where no suitable mercury-free alternative is available.
Metanil yellow (sodium salt of metanilylazo-diphenylamine)	Dye-indicators used in laboratories
Methyl chloride	
Methyl mercaptan	Substances containing less than 1%, weight in weight, of methyl mercaptan
Monomethyltetrachloro diphenyl methane	
Monomethyl-dichloro-diphenyl methane	
Monomethyl-dibromodiphenyl methane	
Neonicotinoid compounds used as pesticides, the following: Imidacloprid	Formulated products containing Imidacloprid approved for household use and belonging to Table 5 of the WHO Recommended Classification of Pesticides by Hazard.
Niclofolan	
Nicotine sulphate	
Nitric acid	Substances containing not more than 9%, weight in weight, of nitric acid.
Nitric oxide	
Nitrobenzene	Substances containing less than 0.1%, weight in weight, of nitrobenzene; Soaps containing less than 1%, weight in weight, of nitrobenzene; Polishes and cleansing agents.
Nitrogen trifluoride	

Ozone depleting substances, namely: (a) Chlorofluorocarbons, the following: Chloroheptafluoropropane Chloropentafluoroethane Chlorotrifluoromethane Dichlorodifluoromethane Dichlorohexafluoropropane Dichlorotetrafluoroethane Heptachlorofluoropropane Hexachlorodifluoropropane Pentachlorofluoroethane Pentachlorotrifluoropropane Tetrachlorodifluoroethane Tetrachlorotetrafluoropropane Trichlorofluoromethane Trichloropentafluoropropane Trichlorotrifluoroethane (b) Halons, the following: Bromochlorodifluoromethane Bromochloromethane Bromotrifluoromethane Dibromotetrafluoroethane (c) Hydrochlorofluorocarbons, the following: 1,1-dichloro-1-fluoro-ethane 1,1-dichloro-2,2,3,3,3-pentafluoropropane	Products containing any ozone depleting substance other than the following products: (a) in the case of chlorofluorocarbons - (i) air-conditioners in vehicles registered on or after 1st January 1995 or intended for such vehicles; (ii) equipment for domestic or commercial refrigeration or air-conditioning installed on or after 1st January 1993, or heat pump equipment, which contains any chlorofluorocarbon substance as a refrigerant or in any insulating material of such equipment; (iii) refrigerators that have a compressor rating which exceeds one horsepower; (iv) non-pharmaceutical aerosol products; (v) insulation boards, panels or pipe covers; (vi) polystyrene sheets or finished products; (b) in the case of Halons, portable fire extinguishers; and (c) in the case of bromotrifluoromethane, fire protection systems with building plans approved after 17th June 1991 and installed after 31st December 1991.

1,3-dichloro-1,2,2,3,3-pentafluoropropane 1-chloro-1,1-difluoro-ethane Chlorodifluoroethane Chlorodifluoromethane Chlorodifluoropropane Chlorofluoroethane Chlorofluoromethane Chlorofluoropropane Chlorohexafluoropropane Chloropentafluoropropane Chlorotetrafluoroethane Chlorotetrafluoropropane Chlorotrifluoroethane Chlorotrifluoropropane Dichlorodifluoroethane Dichlorodifluoropropane Dichlorofluoroethane Dichlorofluoromethane Dichlorofluoropropane Dichloropentafluoropropane Dichlorotetrafluoropropane Dichlorotrifluoroethane Dichlorotrifluoropropane Hexachlorofluoropropane Pentachlorodifluoropropane Pentachlorofluoropropane	

Tetrachlorodifluoropropane Tetrachlorofluoroethane Tetrachlorofluoropropane Tetrachlorotrifluoropropane Trichlorodifluoroethane Trichlorodifluoropropane Trichlorofluoroethane Trichlorofluoropropane Trichlorotetrafluoropropane Trichlorotrifluoropropane (d) Hydrobromofluorocarbons, the following: Bromodifluoroethane Bromodifluoromethane Bromodifluoropropane Bromofluoroethane Bromofluoromethane Bromofluoropropane Bromohexafluoropropane Bromopentafluoropropane Bromotetrafluoroethane Bromotetrafluoropropane Bromotrifluoroethane Bromotrifluoropropane Dibromodifluoroethane Dibromodifluoropropane Dibromofluoroethane	

Dibromofluoromethane Dibromofluoropropane Dibromopentafluoropropane Dibromotetrafluoropropane Dibromotrifluoroethane Dibromotrifluoropropane Hexabromofluoropropane Pentabromodifluoropropane Pentabromofluoropropane Tetrabromodifluoropropane Tetrabromofluoroethane Tetrabromofluoropropane Tetrabromotrifluoropropane Tribromodifluoroethane Tribromodifluoropropane Tribromofluoroethane Tribromofluoropropane Tribromotetrafluoropropane Tribromotrifluoropropane (e) Carbon tetrachloride (f) 1,1,1-trichloroethane (methyl chloroform) (g) Methyl bromide	
Oleum	
Orange II [sodium salt of p-(2-hydroxy-1-naphthylazo) benzenesulphonic acid]	Dye-indicators used in laboratories
Organic peroxides	Car puttys; Substances and preparations containing not more than 3%, weight in weight, of organic peroxides;

	Solutions of not more than 60%, weight in weight, of methyl ethyl ketone peroxides and total aggregate weight of less than 50 kilograms of such solutions.
Organo-tin compounds, the following: Compounds of fentin Cyhexatin Tributyl tin compounds	
Paraquat; its salts	Preparation in pellet form containing not more than 5%, weight in weight, of salts of paraquat ion.
**Pentadecafluorooctanoic acid (PFOA), its salts and related compounds	
Perchloromethyl mercaptan	Substances containing less than 1%, weight in weight, of perchloromethyl mercaptan
**Perfluorohexane sulfonic acid (PFHxS); its salts and related compounds	
Perfluorooctane sulfonic acid (PFOS)	
Phenols, the following: Catechol Cresol Hydroquinone Octyl phenol Phenol Resorcinol	Preparations containing less than 1%, weight in weight, of phenols; Phenols which are intended for the treatment of human ailments and other medical purposes; Soaps for washing; Tar (coal or wood), crude or refined; Photographic solutions containing hydroquinone in individual containers containing not more than 15 kilograms each of such solutions and of aggregate weight of not more than 500 kilograms of such solutions.
Phosgene	
Phosphides	
Phosphine	
Phosphoric acid	Substances containing not more than 50%, weight in weight, of phosphoric acid.
Phosphorus compounds used as pesticides (insecticides, acaricides, etc.), which includes but is not limited to: Chlorpyriphos Methamidophos	Acephate; Bromophos; Iodofenphos; Malathion; Pirimiphos-methyl;

Methyl-parathion Monocrotophos Parathion Phosphamidon Trichlorfon	Temephos; Tetrachlorvinphos; Preparations containing not more than 0.5%, weight in weight, of chlorpyrifos and not containing any other phosphorus compound; Preparations containing not more than 0.5%, weight in weight, of dichlorvos and not containing any other phosphorus compound; Materials impregnated with dichlorvos and not containing any other phosphorus compound for slow release; Preparations containing not more than 1%, weight in weight, of azamethiphos and not containing any other phosphorus compound.
Phosphorus oxybromide	
Phosphorus oxychloride	
Phosphorus pentabromide	
Phosphorus pentachloride	
Phosphorus pentafluoride	
Phosphorus trichloride	
Polybrominated biphenyls	
Polybrominated biphenyls in controlled EEE	Controlled EEE containing polybrominated biphenyls not exceeding 0.1% maximum concentration value by weight of homogeneous material in controlled EEE.
Polybrominated diphenyl ethers (PBDEs)	
Polybrominated diphenyl ethers in controlled EEE	Controlled EEE containing polybrominated diphenyl ethers not exceeding 0.1% maximum concentration value by weight of homogeneous material in controlled EEE.
Polychlorinated biphenyls	
Polychlorinated terphenyls	
Polychlorinated naphthalenes	
Potassium hydroxide	Substances containing not more than 17%, weight in weight, of potassium hydroxide; Accumulators; Batteries.
Prochloraz	

Pyrethroid compounds used as pesticides, the following: Fenvalerate **Lambda-cyhalothrin	Formulated products containing Fenvalerate approved for household use and belonging to Table 5 of the WHO Recommended Classification of Pesticides by Hazard.
Short-chain chlorinated paraffins	
Sodium azide	Air bag devices in motor vehicles
Sodium hydroxide	Substances containing not more than 17%, weight in weight, of sodium hydroxide; Made-up formulated preparations either liquid or solid for biochemical tests.
Sulphur in diesel intended for use in Singapore as fuel for motor vehicles or industrial plants	Sulphur in diesel in which the sulphur content is 0.001% or less by weight.
Sulphur in petrol intended for use in Singapore as fuel for motor vehicles or industrial plants	Sulphur in petrol in which the sulphur content is 0.005% or less by weight.
Sulphur tetrafluoride	
Sulphur trioxide	
Sulphuric acid	Substances containing not more than 9%, weight in weight, of sulphuric acid; Accumulators; Batteries; Fire extinguishers; Photographic developers containing not more than 20%, weight in weight, of sulphuric acid.
Sulphuryl chloride	
Sulphuryl fluoride	
Tetraethyl lead, tetramethyl lead and similar lead containing compounds	
Thallium; its salts	
Titanium tetrachloride	
Tris(2,3-dibromo-1-propyl)phosphate	
Tungsten hexafluoride	

(List is updated as at 17 Feb 2020)

* Take effect from 1 Jan 2020

** Take effect from 12 Feb 2020

You may view or download the complete list of the PCD controlled chemicals sorted in the **numerical (HS codes)** or **alphabetical (chemical names)** order.