
 Delta Electronics, Inc.	Document name: Requirements for Manufacturing Process Substances			Document no. 10000-2009	
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1 Purpose 目的

This specification defines Delta' s global environmental requirements for restricting certain substances use during the manufacture processes.

此規範用於台達生產製程中使用到的輔助材料，以盡力降低健康危害與確保清潔生產。

2 Scope 範圍

The requirements specified in this standard apply to all manufacturing processes material in Delta' s manufacture sites. The materials include but not limited to degrease, detergent, solvent and demoulding agent.

此標準適用於所有台達生產的工廠與產品。規範的材料包含清潔劑，溶劑與脫模劑等。

3 Manufacturing Process Substances Requirements 製程物質管制標準

The substances use during manufacturing processes should meet the Delta standard 10000-0162 as well as following restrictions listed on the table 1.

製程中使用的材料應該符合台達 10000-0162，並且遵守表 1 的禁用物質清單。

Table1. Delta restrictions for manufacturing process substances

Substances	禁用物質	CAS #	Exemptions	Examples of use	References
Methanol	甲醇	67-56-1		Antifreeze, solvents, fuel, denaturant for ethanol	Delta Policy
Acetone (2-propanone)	丙酮	67-64-1	Rework agent	Cleaning agents, solvents, degreasers	Delta Policy
Benzene	苯	71-43-2		Cleaning agents, solvents, degreasers, demolding agents, carrier solvents in adhesives, paints and inks	Delta Policy
Toluene	甲苯	108-88-3	Solvent in ink, coating and varnish	Carrier solvents in adhesives, paints and inks	Delta Policy
Xylene	二甲苯	1330-20-7	Solvent in ink, coating and varnish	Carrier solvents in adhesives, paints and inks	Delta Policy
o-Xylene	1,2-二甲苯; 鄰二甲苯	95-47-6		Cleaning agent, degreaser	Delta Policy
m-Xylene	1,3-二甲苯; 間二甲苯	108-38-3		Cleaning agent, degreaser	Delta Policy
p-Xylene	1,4-二甲苯; 對二甲苯	106-42-3		Cleaning agent, degreaser	Delta Policy
n-hexane	正己烷	110-54-3		Cleaning agent, degreaser, carrier solvents in adhesives	Delta Policy
Hexane, branched and linear	支鏈/長鏈己烷類	92112-69-1 and others		Cleaning agent, degreaser, solvent	Delta Policy
1,1-Dichloroethylene	1,1-二氯乙烯	75-35-4		Cleaning agents, solvents, degreasers, used in the formation of polyvinylidene chloride	Delta Policy
Pentachloroethane	五氯乙烷	76-01-7		Cleaning agents, solvents, degreasers	Delta Policy
Methylenechloride	二氯甲烷	75-09-2		Cleaning agents, solvents, degreasers	Delta Policy

Substances	禁用物質	CAS #	Exemptions	Examples of use	References
Tetrachloromethane (Carbon Tetrachloride)	四氯化碳	56-23-5		Cleaning agents, solvents, degreasers	Delta Policy
1,1,1,2- Tetrachloroethane	1,1,1,2-四氯乙烷	630-20-6		Cleaning agents, solvents, degreasers	Delta Policy
1,1,2,2- Tetrachloroethane	1,1,2,2-四氯乙烷	79-34-5		Cleaning agents, solvents, degreasers	Delta Policy
Tetrachloroethylene	四氯乙烯	127-18-4		Cleaning agents, solvents, degreasers,	Delta Policy
Trichloromethane (Chloroform)	氯仿	67-66-3		Cleaning agents, solvents, degreasers	Delta Policy
1,1,2-Trichloroethane	1,1,2-三氯乙烷	79-00-5		Cleaning agents, solvents, degreasers	Delta Policy
Trichloroethylene	三氯乙烯	79-01-6		Cleaning agents, solvents, degreasers	Delta Policy
1,1,1-Trichloroethane (TCA)	1,1,1-三氯乙烷	71-55-6		Cleaning agents, solvents, degreasers	Delta Policy
Bis (chloromethyl) ether	二氯甲醚	542-88-1		Cleaning agents, solvents, degreasers	Delta Policy
N-methylpyrrolidone (NMP)	N-甲基吡咯烷酮	872-50-4		Cleaning agents, degreasers,	Delta Policy
Pentachlorophenol	五氯苯酚	87-86-5		Pesticide and disinfectant for wood preservation	Delta Policy
Polychlorinated Phenols and their salts	多氯酚及其衍生鹽類	-		Pesticide and disinfectant for wood preservation	Delta Policy
DTDMAC (Dimethyl ditallow ammonium chloride)	二牛油烷基二甲基氯化銨	68783-78-8		Cleaning agents	Delta Policy
DODMAC/DSDMAC (Dioctyldimethyl ammonium chloride)	氯化雙辛基二甲基銨	107-64-2		Cleaning agents	Delta Policy
DHTDMAC (Dihydrogenated tallow dimethyl ammonium chloride)	二硬脂基二甲基氯化銨	61789-80-8		Cleaning agents	Delta Policy

Substances	禁用物質	CAS #	Exemptions	Examples of use	References
Ozone Depleting Substances (ODS)	臭氧破壞物質	Refer to Annexes A, B, C, E of Montreal Protocol		Plastic foaming agent	Montreal Protocol
Fluorinated greenhouse gases, hydrofluorocarbons (HFCs)	氟氯烷			Aerosols	EC 842/2006
HFC-23		75-46-7			
HFC-32		75-10-5			
HFC-41		593-53-3			
HFC-125		354-33-6			
HFC-134		359-35-3			
HFC-134a		811-97-2			
HFC-152a		75-37-6			
HFC-143		430-66-0			
HFC-143a		420-46-2			
HFC-227ea		2356-62-9			
HFC-236cb		677-56-5			
HFC-236ea		431-63-0			
HFC-236fa		690-39-1			
HFC-245ca		679-86-7			
HFC-245fa		460-73-1			
HFC-365mfc		406-58-6			
Sulphur hexafluoride (SF6)	六氟化硫	2551-62-4		Dielectric medium	EC 842/2006

Substances	禁用物質	CAS #	Exemptions	Examples of use	References
Fluorinated greenhouse gases, hydrofluorocarbons and perfluorocarbons (PFCs)	全氟碳化物			Unconfined direct- evaporation systems containing refrigerants	EC 842/2006
Perfluoromethane	四氟化碳 (四氟甲烷)	75-73-0			
Perfluoroethane	全氟乙烷	76-16-4			
Perfluoropropane	全氟丙烷	76-19-7			
Perfluoropropane	全氟丁烷	355-25-9			
Perfluoropentane	全氟戊烷	678-26-2			
Perfluorohexane	全氟己烷	355-42-0			
Perfluorocyclobutane	全氟環丁烷	115-25-3			

4 References

1. Delta 10000-0162 Management Standards for Environment-related Substances.
2. Montreal Protocol on Substances that Deplete the Ozone Layer, Annexes A, B, C, E.
3. Stockholm Convention on Persistent Organic Pollutants.
4. EU Regulation (EC) No 842/2006.

5 Revision history

REV.	Description	Date
00	First release of the document	12/27/2016
01	1. Add restriction for N-methylpyrrolidone (NMP). 2. Add restriction for DTDMAC, DODMAC/DSDMAC and DHTDMAC.	2018/11/9

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