TSD-1006 April, 2008

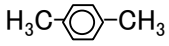
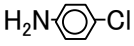
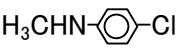
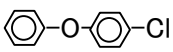
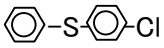
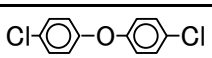
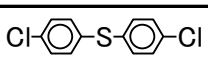
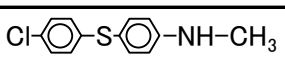
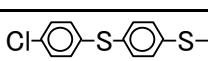
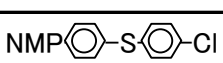
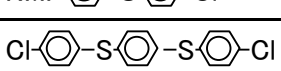
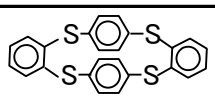
Out-Gas from Melting Resin

Main outgas components of PPS at the injection process are H_2O and CO_2, and additional gas is coming out. The following table is organic gas captured at the following condition;

Testing material: FZ-1140 and FZ-2140 pellets
Melting condition: 15 min. at 320C

The captured gas from FZ-1140 that is cured polymer based compound contains mainly high boiling point components (Boiling Point; over 280C, segment No. 7-15). On the other hand, the captured gas from FZ-2140 which is linear polymer based compound contains mainly low boiling point components such as Xylene. Most of them are coming from PPS polymer.

Table Out-gas from melted PPS resin (320C/15min.)

No.	Gas components	Chemical name	Boiling point ℃	FZ-1140	FZ-2140
1		Xylene	139-145	2.1	24.1
2		Phenol	182	2.6	2.6
3	NMP	N-methyl-2-pyrrolidone	202	1.0	0.4
4		chloro aniline	232	1.9	-
5		methyl chloro aniline	>230	1.6	-
6			>230	3.6	0.4
7			>280	15.3	2.2
8			>280	2.5	-
9			>280	35.5	3.6
10			>280	11.9	5.4
11			>280	1.1	-
12			>280	1.1	-
13			>280	2.9	3.0
14			>280	3.7	2.2
15			>280	13.2	1.9

※Above value is correlation data based on FZ1140 data as 100%.