Example 3	Stainless steel foam	$Ce(NO_3)_3 \cdot 6H_2O$	Ceria
Example 4	Stainless steel foam	$Pd(NO_3)_2$	Pd
Reference Example 1	Stainless steel foam	none	none
Reference Example 2	Plumbers wool	none	none

Experiment 1 – Decomposition of toluene

Toluene, in a three necked round bottom flask at ambient temperature had a stream of compressed air bubbled through it. The vapour was passed through a quartz column which contains a catalyst, if a catalyst is being used, at temperatures between 200-400 ^oC. The exhaust gases were analysed by *in-situ* mass spectrometry (MS). Specifically, the concentration of the tolyl ion ($C_6H_4CH_3^+$) at m/z = 91 and the combustion product CO_2 at m/z = 44 were monitored using *in-situ* MS. This procedure was repeated several times using different catalysts/non-catalysts.

In a first run, no catalyst was used and the concentration of output gases from the thermal degradation of toluene under these conditions are shown in Figure 1.

In a second run, uncoated stainless steel foam (Reference Example 1) was present in the quartz column. The results are shown in Figure 2.

In a third run, plumbers wool (Reference Example 2) was present in the quartz column. The results are shown in Figure 3.

In a fourth run, iron oxide coated stainless steel foam (Example 1) was present in the quartz column. The results are shown in Figure 4.

In a fifth run, nickel coated stainless steel foam (Example 2) was present in the quartz column. The results are shown in Figure 5.

CLAIMS:

1. A method of treating air in an aircraft air handling system comprising heating the air in the presence of the catalyst comprising iron oxide, nickel, ceria or palladium supported on stainless steel foam.

2. A method according to claim 1, wherein the air is heated in the presence of said catalyst to a temperature of from 150 °C to 450 °C or 200 to 400°C.

3. A method according to claim 1 or claim 2, wherein the iron oxide, nickel, ceria or palladium is present in the catalyst in an amount of 2 to 15 wt%.

4. A method according to any one of claims 1 to 3, wherein the catalyst comprises iron oxide.

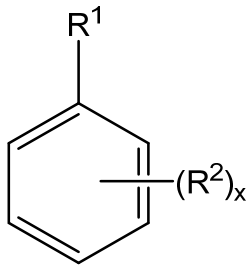
5. A method according to any one of claims 1 to 3, wherein the catalyst comprises nickel.

6. A method according to any one of claims 1 to 3, wherein the catalyst comprises ceria.

7. A method according to any one of claims 1 to 3, wherein the catalyst comprises palladium.

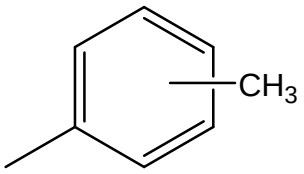
8. A method according to any one of claims 1 to 7, wherein the air comprises a compound of formula (I):

(I)

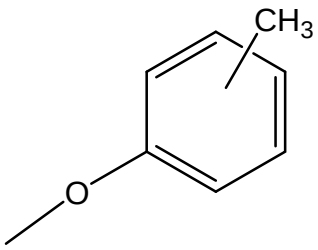


where R^1 is a hydrocarbyl group having from 1 to 5 carbon atoms, $-R^2$ is chosen from -OH, a group of formula (II), (III), or (IV)

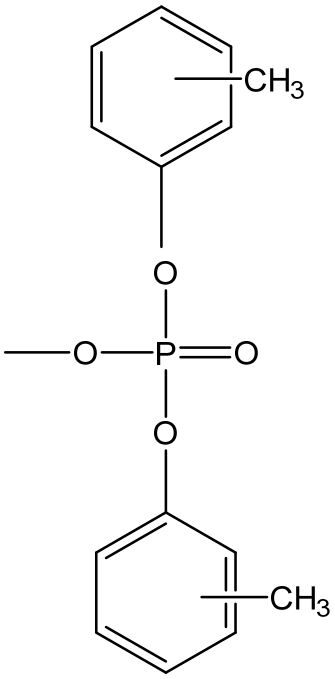
(II)



(III)



(IV)



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a hydrocarbyl group having from 1 to 5 carbon atoms, -Br, -Cl or -Fl and x is from 0 to 2; and wherein said method comprises oxidising the compound.

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