CLAIMS

1. A jet assembly for use in a flame detector, the jet assembly comprising a fluid flow path in a housing, in which the fluid flow path is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a substantially inert metal material.

2. The jet assembly of claim 1, in which the substantially inert metal material is present in a major amount.

3. The jet assembly of claim 1, in which the substantially inert metal material comprises titanium, aluminum, yttrium or combinations thereof.

4. The jet assembly of claim 3, in which the substantially inert metal material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

5. The jet assembly of claim 1, in which the substantially inert metal material comprises nickel.

6. The jet assembly of claim 5, in which the substantially inert metal material is a Hastelloy® alloy.

7. The jet assembly of claim 1, in which the substantially inert metal material comprises chromium.

8. The jet assembly of claim 7, in which the substantially inert metal material is an Inconel® alloy.

9. The jet assembly of claim 1, in which the substantially inert metal material is present in a non-coated form.

10. The jet assembly of claim 9, in which the substantially inert metal material is in a tube that is integral to the housing.

11. A jet assembly for use in a flame detector, the jet assembly comprising a fluid flow path in a housing, in which the fluid flow path is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

12. The jet assembly of claim 1, in which the non-catalytic metal material is present in a major amount.

13. The jet assembly of claim 11, in which the non-catalytic metal material comprises titanium, aluminum, yttrium or combinations thereof.

14. The jet assembly of claim 13, in which the non-catalytic metal material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

15. The jet assembly of claim 11, in which the non-catalytic metal material comprises nickel.

16. The jet assembly of claim 15, in which the non-catalytic metal material is a Hastelloy® alloy.

17. The jet assembly of claim 11, in which the non-catalytic metal material comprises chromium.

18. The jet assembly of claim 17, in which the non-catalytic metal material is an Inconel® alloy.

19. The jet assembly of claim 11, in which the non-catalytic metal material is present in a non-coated form.

20. The jet assembly of claim 19, in which the non-catalytic metal material is in a tube that is integral to the housing.

21. A jet assembly comprising:

a first tube configured to couple to a flame detector assembly; and

a second tube inside the first tube, in which the second tube comprises a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

22. The jet assembly of claim 21, in which the non-catalytic metal material comprises titanium, aluminum, yttrium or combinations thereof.

23. The jet assembly of claim 22, in which the non-catalytic metal material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

24. The jet assembly of claim 21, in which the non-catalytic metal material comprises nickel.

25. The jet assembly of claim 25, in which the non-catalytic metal material is a Hastelloy® alloy.

26. The jet assembly of claim 21, in which the non-catalytic metal material comprises chromium.

27. The jet assembly of claim 27, in which the non-catalytic metal material is an Inconel® alloy.

28. The jet assembly of claim 21, in which the non-catalytic metal material is present in a non-coated form.

29. The jet assembly of claim 11, in which the second tube is longer than the first tube to fluidically couple to the chromatography column.

30. The jet assembly of claim 21, in which the first tube comprises a non-catalytic material.

31. A jet assembly comprising:

a first tube configured to couple to a flame detector assembly; and

a second tube inside the first tube, in which the second tube comprises a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a major amount of a substantially inert metal material.

32. The jet assembly of claim 31, in which the substantially inert metal material comprises titanium, aluminum, yttrium or combinations thereof.

33. The jet assembly of claim 32, in which the substantially inert metal material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

34. The jet assembly of claim 31, in which the substantially inert metal material comprises nickel.

35. The jet assembly of claim 34, in which the substantially inert metal material is a Hastelloy® alloy.

36. The jet assembly of claim 31, in which the substantially inert metal material comprises chromium.

37. The jet assembly of claim 36, in which the substantially inert metal material is an Inconel® alloy.

38. The jet assembly of claim 31, in which the substantially inert metal material is present in a non-coated form.

39. The jet assembly of claim 31, in which the second tube is longer than the first tube to fluidically couple to the chromatography column.

40. The jet assembly of claim 31, in which the first tube comprises a substantially inert metal material.

41. A jet assembly comprising a fluid flow path inside a housing, in which the fluid flow path comprises a non-catalytic, non-glass material present in an effective amount to deter catalysis.

42. The jet assembly of claim 41, in which the non-catalytic, non-glass material comprises titanium, aluminum, yttrium or combinations thereof.

43. The jet assembly of claim 42, in which the non-catalytic, non-glass material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

44. The jet assembly of claim 41, in which the non-catalytic, non-glass material comprises nickel.

45. The jet assembly of claim 44, in which the non-catalytic, non-glass material is a Hastelloy® alloy.

46. The jet assembly of claim 41, in which the non-catalytic, non-glass material comprises chromium.

47. The jet assembly of claim 46, in which the non-catalytic, non-glass material is an Inconel® alloy.

48. The jet assembly of claim 41, in which the non-catalytic, non-glass material is present in a non-coated form.

49. The jet assembly of claim 48, in which the non-catalytic, non-glass material is in a tube that is integral to the housing.

50. The jet assembly of claim 41, in which the housing is configured as a first tube.

51. A jet assembly comprising a fluid flow path inside a housing, in which the fluid flow path comprises, in which the fluid flow path comprises a substantially inert non-glass, non-stainless steel material.

52. The jet assembly of claim 51, in which the substantially inert non-glass, non-stainless steel material comprises titanium, aluminum, yttrium or combinations thereof.

53. The jet assembly of claim 52, in which the substantially inert non-glass, non-stainless steel material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

54. The jet assembly of claim 51, in which the substantially inert non-glass, non-stainless steel material comprises nickel.

55. The jet assembly of claim 54, in which the substantially inert non-glass, non-stainless steel material is a Hastelloy® alloy.

56. The jet assembly of claim 51, in which the substantially inert non-glass, non-stainless steel material comprises chromium.

57. The jet assembly of claim 56, in which the substantially inert non-glass, non-stainless steel material is an Inconel® alloy.

58. The jet assembly of claim 51, in which the substantially inert non-glass, non-stainless steel material is present in a non-coated form.

59. The jet assembly of claim 58, in which the substantially inert non-glass, non-stainless steel material is in a tube that is integral to the housing.

60. The jet assembly of claim 51, in which the housing is configured as a first tube.

61. A jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be fluidically coupled to a chromatography column, in which the fluid flow path comprises a substantially inert metal material.

62. The jet assembly insert of claim 61, in which the substantially inert metal material is present in a major amount.

63. The jet assembly insert of claim 61, in which the substantially inert metal material comprises titanium, aluminum, yttrium or combinations thereof.

64. The jet assembly insert of claim 63, in which the substantially inert metal material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

65. The jet assembly insert of claim 61, in which the substantially inert metal material comprises nickel or chromium.

66. A jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be fluidically coupled to a chromatography column, in which the fluid flow path of comprises a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

67. The jet assembly insert of claim 66, in which the non-catalytic metal material is present in a major amount.

68. The jet assembly insert of claim 66, in which the non-catalytic metal material comprises titanium, aluminum, yttrium or combinations thereof.

69. The jet assembly insert of claim 68, in which the non-catalytic metal material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

70. The jet assembly insert of claim 66, in which the non-catalytic metal material comprises nickel or chromium.

71. A jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be fluidically coupled to a chromatography column, in which the fluid flow path comprises a non-catalytic metal oxide material present in an major amount to deter catalysis.

72. The jet assembly insert of claim 71, in which the non-catalytic metal oxide material is present in a major amount.

73. The jet assembly insert of claim 71, in which the non-catalytic metal oxide material comprises titanium, aluminum, yttrium or combinations thereof.

74. The jet assembly insert of claim 73, in which the non-catalytic metal oxide material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

75. The jet assembly insert of claim 71, in which the non-catalytic metal oxide material comprises nickel or chromium.

76. A jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be fluidically coupled to a chromatography column, in which the fluid flow path comprises a substantially inert metal oxide material.

77. The jet assembly insert of claim 76, in which the substantially inert metal oxide material is present in a major amount.

78. The jet assembly insert of claim 76, in which the substantially inert metal oxide material comprises titanium, aluminum, yttrium or combinations thereof.

79. The jet assembly insert of claim 78, in which the substantially inert metal oxide material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

80. The jet assembly insert of claim 77, in which the substantially inert metal oxide material comprises nickel or chromium.

81. A flame detector comprising:

a flame jet; and

a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a substantially inert metal material.

82. The flame detector of claim 81, in which the substantially inert metal material is present in a major amount.

83. The flame detector of claim 81, in which the substantially inert metal material comprises titanium, aluminum, yttrium or combinations thereof.

84. The flame detector of claim 83, in which the substantially inert metal material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

85. The flame detector of claim 81, in which the substantially inert metal material comprises nickel or chromium.

86. A flame detector comprising:

a flame jet; and

a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

87. The flame detector of claim 86, in which the non-catalytic metal material is present in a major amount.

88. The flame detector of claim 86, in which the non-catalytic metal material comprises titanium, aluminum, yttrium or combinations thereof.

89. The flame detector of claim 88, in which the non-catalytic metal material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

90. The flame detector of claim 86, in which the non-catalytic metal material comprises nickel or chromium.

91. A flame detector comprising:

a flame jet; and

a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a substantially inert metal oxide material.

92. The flame detector of claim 91, in which the substantially inert metal oxide material is present in a major amount.

93. The flame detector of claim 91, in which the substantially inert metal oxide material comprises titanium, aluminum, yttrium or combinations thereof.

94. The flame detector of claim 93, in which the substantially inert metal oxide material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

95. The flame detector of claim 91, in which the substantially inert metal oxide material comprises nickel or chromium.

96. A flame detector comprising:

a flame jet; and

a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a non-catalytic metal oxide material present in an major amount to deter catalysis.

97. The flame detector of claim 96, in which the non-catalytic metal oxide material is present in a major amount.

98. The flame detector of claim 96, in which the non-catalytic metal oxide material comprises titanium, aluminum, yttrium or combinations thereof.

99. The flame detector of claim 98, in which the non-catalytic metal oxide material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

100. The flame detector of claim 96, in which the non-catalytic metal oxide material comprises nickel or chromium.

101. A flame detector comprising:

a flame jet; and

a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a non-catalytic, non-glass material present in an effective amount to deter catalysis.

102. The flame detector of claim 101, in which the non-catalytic, non-glass material is present in a major amount.

103. The flame detector of claim 101, in which the non-catalytic, non-glass material comprises titanium, aluminum, yttrium or combinations thereof.

104. The flame detector of claim 103, in which the non-catalytic, non-glass material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

105. The flame detector of claim 101, in which the non-catalytic, non-glass material comprises nickel or chromium.

106. A flame detector comprising:

a flame jet; and

a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a substantially inert non-glass, non-stainless steel material.

107. The flame detector of claim 106, in which the substantially inert non-glass, non-stainless steel material is present in a major amount.

108. The flame detector of claim 106, in which the substantially inert non-glass, non-stainless steel material comprises titanium, aluminum, yttrium or combinations thereof.

109. The flame detector of claim 108, in which the substantially inert non-glass, non-stainless steel material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

110. The flame detector of claim 101, in which the substantially inert non-glass, non-stainless steel material comprises nickel or chromium.

111. A kit comprising a jet assembly for use in a flame detector, the jet assembly comprising a fluid flow path in a housing, in which the fluid flow path is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a substantially inert metal material.

112. A kit comprising a jet assembly for use in a flame detector, the jet assembly comprising a fluid flow path in a housing, in which the fluid flow path is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

113. A kit comprising a jet assembly comprising a first tube configured to couple to a flame photometric detector assembly, and a second tube inside the first tube, in which the second tube comprises a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

114. A kit comprising a jet assembly comprising a first tube configured to couple to a flame photometric detector assembly, and a second tube inside the first tube, in which the second tube comprises a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a major amount of a substantially inert metal material.

115. A kit comprising a jet assembly comprising a fluid flow path inside a housing, in which the fluid flow path comprises a non-catalytic, non-glass material present in an effective amount to deter catalysis.

116. A kit comprising a jet assembly comprising a fluid flow path inside a housing, in which the fluid flow path comprises, in which the fluid flow path comprises a substantially inert non-glass, non-stainless steel material.

117. A kit comprising a jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be fluidically coupled to a chromatography column, in which the fluid flow path comprises a substantially inert metal material.

118. A kit comprising a jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be fluidically coupled to a chromatography column, in which the fluid flow path of comprises a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

119. A kit comprising a jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be fluidically coupled to a chromatography column, in which the fluid flow path comprises a non-catalytic metal oxide material present in an major amount to deter catalysis.

120. A kit comprising a jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be fluidically coupled to a chromatography column, in which the fluid flow path comprises a substantially inert metal oxide material.

121. A kit comprising a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a substantially inert metal material.

122. A kit comprising a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

123. A kit comprising a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a substantially inert metal oxide material.

124. A kit comprising a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a non-catalytic metal oxide material present in an major amount to deter catalysis.

125. A kit comprising a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a non-catalytic, non-glass material present in an effective amount to deter catalysis.

126. A kit comprising a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a substantially inert non-glass, non-stainless steel material.

127. A method of facilitating chromatographic analysis, the method comprising providing a jet assembly comprising a fluid flow path in a housing, in which the fluid flow path is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a substantially inert metal material.

128. A method of facilitating chromatographic analysis, the method comprising providing a jet assembly comprising a fluid flow path in a housing, in which the fluid flow

path is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

129. A method of facilitating chromatographic analysis, the method comprising providing a jet assembly comprising a first tube configured to couple to a flame photometric detector assembly, and a second tube inside the first tube, in which the second tube comprises a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

130. A method of facilitating chromatographic analysis, the method comprising providing a jet assembly comprising a first tube configured to couple to a flame photometric detector assembly, and a second tube inside the first tube, in which the second tube comprises a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, and in which the fluid flow path comprises a major amount of a substantially inert metal material.

131. A method of facilitating chromatographic analysis, the method comprising providing a jet assembly comprising a fluid flow path inside a housing, in which the fluid flow path comprises a non-catalytic, non-glass material present in an effective amount to deter catalysis.

132. A method of facilitating chromatographic analysis, the method comprising providing a jet assembly comprising a fluid flow path inside a housing, in which the fluid flow path comprises, in which the fluid flow path comprises a substantially inert non-glass, non-stainless steel material.

133. A method of facilitating chromatographic analysis, the method comprising providing a jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be

fluidically coupled to a chromatography column, in which the fluid flow path comprises a substantially inert metal material.

134. A method of facilitating chromatographic analysis, the method comprising providing a jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be fluidically coupled to a chromatography column, in which the fluid flow path of comprises a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

135. A method of facilitating chromatographic analysis, the method comprising providing a jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be fluidically coupled to a chromatography column, in which the fluid flow path comprises a non-catalytic metal oxide material present in an major amount to deter catalysis.

136. A method of facilitating chromatographic analysis, the method comprising providing a jet assembly insert that is constructed and arranged to couple to a housing of a jet assembly, the jet assembly insert comprising a fluid flow path that is configured to be fluidically coupled to a chromatography column, in which the fluid flow path comprises a substantially inert metal oxide material.

137. A method of facilitating chromatographic analysis, the method comprising providing a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a substantially inert metal material.

138. A method of facilitating chromatographic analysis, the method comprising providing a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

139. A method of facilitating chromatographic analysis, the method comprising providing a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a substantially inert metal oxide material.

140. A method of facilitating chromatographic analysis, the method comprising providing a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a non-catalytic metal oxide material present in an major amount to deter catalysis.

141. A method of facilitating chromatographic analysis, the method comprising providing a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a non-catalytic, non-glass material present in an effective amount to deter catalysis.

142. A method of facilitating chromatographic analysis, the method comprising providing a flame detector comprising a flame jet, and a fluid flow path that is constructed and arranged to be fluidically coupled to a chromatography column at one end and to the flame jet at an opposite end, the fluid flow path comprising a substantially inert non-glass, non-stainless steel material.

143. A brazeless and weldless jet assembly for use in a flame detector, the jet assembly comprising a fluid flow path in a first tube, the fluid flow path constructed and arranged to be fluidically coupled to a chromatography column to receive sample from the chromatography column, the first tube coupled to a housing through a coupler constructed and arranged to couple the first tube to the housing without using a braze or weld.

144. The jet assembly of claim 143, in which the fluid flow path comprises a substantially inert material.

145. The jet assembly of claim 144, in which the first tube comprises a stainless steel and the substantially inert material is coated onto the stainless steel.

146. The jet assembly of claim 144, in which the substantially inert material is a silica coating.

146. The jet assembly of claim 143, in which the fluid flow path comprises a non-catalytic metal material present in an effective amount to deter catalysis.

147. The jet assembly of claim 143, in which the fluid flow path comprises a non-catalytic, non-glass material present in an effective amount to deter catalysis.

148. The jet assembly of claim 143, in which the fluid flow path comprises a substantially inert non-glass, non-stainless steel material.

149. The jet assembly of claim 143, in which the fluid flow path comprises a non-catalytic metal oxide material present in an major amount to deter catalysis.

150. The jet assembly of claim 143, in which the fluid flow path comprises a substantially inert metal oxide material.

151. The jet assembly of claim 143, in which the fluid flow path comprises a non-catalytic metal material present in an effective amount to deter catalysis.

152. The jet assembly of claim 143, in which the fluid flow path comprises a silica coating.

153. The jet assembly of claim 143, in which the coupler is configured as a compressible ferrule.

155. The jet assembly of claim 153, in which the housing comprises a second tube and a fitting, in which the second tube engages threads on the fitting to compress the ferrule and couple the first tube to the second tube.

CLAIMS

1. A jet assembly for use in a flame detector, the jet assembly comprising a flame jet configured to sustain a flame in the flame detector and a fluid flow path in a housing of the jet assembly, in which the fluid flow path is constructed and arranged to be fluidically coupled to a chromatography column at a column end to receive sample from the chromatography column, in which the fluid flow path is constructed and arranged to fluidically couple to the flame jet at a flame jet end, in which the entire fluid flow path from the column end to the flame jet end is formed from a substantially inert metal material, and in which the fluid flow path is present in the housing of the jet assembly without any brazes or welds.

2. The jet assembly of claim 1, in which the substantially inert metal material is present in an effective amount to deter catalysis in the fluid flow path.

3. The jet assembly of claim 1, in which the substantially inert metal material comprises titanium, aluminum, yttrium or combinations thereof.

4. The jet assembly of claim 3, in which the substantially inert metal material comprises titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

5. The jet assembly of claim 1, in which the substantially inert metal material comprises nickel.

6. The jet assembly of claim 5, in which the substantially inert metal material is a Hastelloy® alloy.

7. The jet assembly of claim 1, in which the substantially inert metal material comprises chromium.

8. The jet assembly of claim 7, in which the substantially inert metal material is an Inconel® alloy.

9. The jet assembly of claim 1, in which the substantially inert metal material is present in a tube that is integral to the housing.

10. The jet assembly of claim 1, in which the fluid flow path is provided by a tube assembly comprising an inner tube coupled to an outer tube, in which the inner tube is formed from the substantially inert metal material.

11. The jet assembly of claim 10, in which the inner tube is coupled to the outer tube without any brazes or welds.

12. A jet assembly for use in a flame detector, the jet assembly comprising a flame jet configured to sustain a flame in the flame detector and a fluid flow path in a housing of the jet assembly, in which the fluid flow path is constructed and arranged to be fluidically coupled to a chromatography column at a column end to receive sample from the chromatography column, in which the fluid flow path is constructed and arranged to fluidically couple to the flame jet at a flame jet end, in which the entire fluid flow path from the column end to the flame jet end is formed from a non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path, and in which the fluid flow path is present in the housing of the jet assembly without any brazes or welds.

13. The jet assembly of claim 12, in which the fluid flow path is a tube formed from the non-catalytic metal material.

14. The jet assembly of claim 12, in which the non-catalytic metal material comprises titanium, aluminum, yttrium or combinations thereof.

15. The jet assembly of claim 14, in which the non-catalytic metal material comprises

titanium oxide, aluminum oxide, yttrium oxide or combinations thereof.

16. The jet assembly of claim 12, in which the non-catalytic metal material comprises nickel.

17. The jet assembly of claim 16, in which the non-catalytic metal material is a Hastelloy® alloy.

18. The jet assembly of claim 12, in which the non-catalytic metal material comprises chromium.

19. The jet assembly of claim 18, in which the non-catalytic metal material is an Inconel® alloy.

20. The jet assembly of claim 12, in which the fluid flow path is provided by a tube assembly comprising an inner tube couple to an outer tube, in which the inner tube is formed from the non-catalytic metal material present in an effective amount to deter catalysis in the fluid flow path.

21. The jet assembly of claim 20, in which the inner tube is coupled to the outer tube without any brazes or welds.