1. **20220145198** HIGH OCTANE UNLEADED AVIATION GASOLINE — US - 12.05.202

IPC C10L 1/223 **Anm.-Nr.** 17409585 **Anmelder** GENERAL AVIATION MODIFICATIONS, INC. **Erfinder** George W Braly

Unleaded aviation gasoline. An aviation gasoline fuel blend includes an unleaded aviation gasoline base fuel, with an effective amount of selected alkyl benzenes to improve the functional engine performance to avoid harmful detonation sufficient to meet or excee selected standards for detonation performance requirements in full scale aircraft piston spark ignition engines designed for use with Grade 100LL avgas. Suitable alkylated benzenes may include a mixture of xylene isomers. Aromatic amines, such as m-toluidine, ma also be added to increase MON. Base fuels may be a high quality aviation alkylate, or may be a commercial iso-octane, or a mixture of high quality aviation alkylate enhanced by iso-octane, or by commercial iso-octane mixtures, and may include iso-pentane or butan or both iso-pentane and butane in sufficient quantity to provide appropriate vapor pressure for the final fuel blend.

2. **20200277535** HIGH OCTANE UNLEADED AVIATION GASOLINE — US - 03.09.202

IPC C10L 1/223 **Anm.-Nr.** 16736253 **Anmelder** GENERAL AVIATION MODIFICATIONS, INC. **Erfinder** George W BRALY

Concentrate for the manufacture of unleaded aviation gasoline. High quality aviation alkylate, or similar base fuel is blended with selected aromatic solvents, including alkyl benzenes effective to improve the functional engine performance to avoid harmful detonatio in aircraft piston engines. Monoalkylated benzenes such as toluene and ethylbenzene are utilized in combination with dialkylated benzenes, such as xylenes. Aromatic amines, for example p-toluidine and m-toluidine, may be added to increase MON. Alcohols such a ethanol and/or methanol may be added in effective amounts to produce unleaded AVGAS which meets a required freeze point. Amounts of toluene to p-toluidine, and/or of the amount of p-toluidine to m-toluidine may be in a controlled ratio in amounts effective t produce unleaded AVGAS which meets a required freeze point. Isopentane and/or butane may be included to provide a required vapor pressure profile.

3. **20190225900** HIGH OCTANE UNLEADED AVIATION GASOLINE — US - 25.07.201

IPC C10L 1/223 **Anm.-Nr.** 16374616 **Anmelder** GENERAL AVIATION MODIFICATIONS, INC. **Erfinder** George W Braly

Unleaded aviation gasoline. An aviation gasoline fuel blend includes an unleaded aviation gasoline base fuel, with an effective amount of selected alkyl benzenes to improve the functional engine performance to avoid harmful detonation sufficient to meet or excee selected standards for detonation performance requirements in full scale aircraft piston spark ignition engines designed for use with Grade 100LL avgas. Selected alkyl benzenes such as 1,3-dimethylbenzene, and/or 1,3,5-trimethylbenzene, or other mixtures therec may be used. Suitable alkylated benzenes may include a mixture of xylene isomers. Aromatic amines, such as m-toluidine, may also be added to increase MON. Base fuels may be a high quality aviation alkylate, or may be a commercial iso-octane, or a mixture of hig quality aviation alkylate enhanced by commercial iso-octane, and may include iso-pentane or butane or both iso-pentane and butane in sufficient quantity to provide appropriate vapor pressure for the final fuel blend.

4. **20190062658** HIGH OCTANE UNLEADED AVIATION FUEL — US - 28.02.201

IPC C10L 1/223 **Anm.-Nr.** 15848541 **Anmelder** GENERAL AVIATION MODIFICATIONS, INC. **Erfinder** George W Braly

Method for manufacture of unleaded aviation gasoline. The method includes blending a high octane alkylate, an effective amount of selected alkyl benzenes and of selected aromatic amines to improve the functional engine performance to avoid harmful detonatio sufficient to meet or exceed selected standards for detonation performance requirements in full scale aircraft piston spark ignition engines designed for use with Grade 100LL avgas. Suitable alkylated benzenes may include a mixture of xylene isomers. Selecte aromatic amines, such as N-methyl-p-toluidine, may be added to increase MON. The high octane alkylate may be an aviation alkylate, or iso-octane, or both, and may utilize high octane alkylates having a motor octane number of between about ninety-seven (97) an about one hundred (100). Suitable amounts of iso-pentane, n-butane, and iso-butane may be used for providing vapor pressure in a commercially acceptable range.

5. **20190062659** HIGH OCTANE UNLEADED AVIATION FUEL — US - 28.02.201

IPC C10L 10/10 **Anm.-Nr.** 15848504 **Anmelder** GENERAL AVIATION MODIFICATIONS, INC. **Erfinder** George W Braly

Unleaded aviation gasoline. An unleaded aviation gasoline includes a blend of high octane alkylate, an effective amount of selected alkyl benzenes, and selected aromatic amines sufficient to improve the functional engine performance to avoid harmful detonatio sufficient to meet or exceed selected standards for detonation performance requirements in full scale aircraft piston spark ignition engines designed for use with Grade 100LL avgas. Suitable alkylated benzenes may include a mixture of xylene isomers. Selecte aromatic amines, such as N-methyl-p-toluidine, are used to increase performance. The high octane alkylate may be an aviation alkylate, or iso-octane, or both, and may utilize high octane alkylates having a motor octane number of between about ninety-seven (9 and about one hundred (100). Suitable amounts of iso-pentane, n-butane, and iso-butane may be used for providing vapor pressure in a commercially acceptable range.

6. **20140123548** HIGH OCTANE UNLEADED AVIATION GASOLINE — US - 08.05.201

IPC C10L 1/223 **Anm.-Nr.** 14153950 **Anmelder** George W. Braly **Erfinder** George W. Braly

Unleaded aviation gasoline. High quality aviation alkylate, or similar base fuel is blended with selected alkyl benzenes to improve the functional engine performance to avoid harmful detonation in aircraft piston engines. Monoalkylated benzenes such as toluene an ethylbenzene are utilized in combination with dialkylated benzenes, such as xylenes. Aromatic amines, for example p-toluidine and m-toluidine, may be added to increase MON. Alcohols such as ethanol and/or methanol may be added in effective amounts to produc unleaded AVGAS which meets a required freeze point. Amounts of toluene to p-toluidine, and/or of the amount of p-toluidine to m-toluidine may be in a controlled ratio in amounts effective to produce unleaded AVGAS which meets a required freeze point. Isopentan