Claims

1. The use of polymers having a statistical average of

   - at least 4 carboxylic acid groups per polymer chain,

   - a ratio of carbon atoms per acid group of 7 to 35 and

   - an acid number of 80 to 320 mg KOH/g, determined by potentiographic titration with 0.5 molar aqueous hydrochloric acid after heating in 0.5 molar ethanolic potassium hydroxide solution for three hours

   as corrosion inhibitors in fuels or lubricants, preferably in fuels, more preferably in fuels having a content of alkali metals and/or alkaline earth metals and/or zinc of at least 0.1 up to 3900 ppm by weight.

2. The use according to claim 1, wherein the alkali metals and/or alkaline earth metals and/or zinc are selected from the group consisting of sodium, zinc, magnesium and calcium.

3. The use according to any one of the preceding claims, wherein the polymer bears up to 50 acid groups per polymer chain.

4. The use according to any one of the preceding claims, wherein the polymers bear not more than 5 functional groups other than oxygen-containing functional groups and nitrogen-containing functional groups per polymer chain.

5. The use according to any one of the preceding claims, wherein the polymers bear not more than 3 oxygen-containing functional groups per polymer chain other than carbonate groups, ether groups or ester groups.

6. The use according to any one of the preceding claims, wherein the polymers bear not more than 20 ether groups per polymer chain.

7. The use according to any one of the preceding claims, wherein the polymers bear not more than 50 carbonate groups or ester groups per polymer chain.

8. The use according to any one of the preceding claims, wherein the polymers have a weight-average molecular weight Mw of 0.5 to 20 kDa (determined by gel permeation chromatography with tetrahydrofuran and polystyrene as standard) and a polydispersity of 1 to 10.

9. The use according to any one of the preceding claims for inhibition of corrosion of iron, steel and/or nonferrous metal surfaces.

10. The use according to any one of claims 1 to 8 for inhibiting the corrosion of copper and copper-containing alloys.

11. The use according to any one of the preceding claims, wherein the fuel is a diesel fuel or gasoline fuel.

12. The use according to any one of the preceding claims, wherein the polymer has a solubility in toluene at 20°C of at least 0.5 g/100 mL.

13. The use of polymers having a statistical average of

- at least 4 carboxylic acid groups per polymer chain,

- a ratio of carbon atoms per acid group of 7 to 35 and

- an acid number of 80 to 320 mg KOH/g, determined by potentiographic titration with 0.5 molar aqueous hydrochloric acid after heating in 0.5 molar ethanolic potassium hydroxide solution for three hours

in additive packages comprising at least one additive selected from the group consisting of detergent additives, carrier oils, cold flow improvers, lubricity improvers, corrosion inhibitors other than the polymers described, demulsifiers, dehazers, antifoams, cetane number improvers, combustion improvers, antioxidants, stabilizers, antistats, metallocenes, metal deactivators, dyes and solvents, for reducing corrosion in diesel fuels having a content of alkali metals and/or alkaline earth metals and/or zinc of at least 0.1 ppm up to 3900 ppm by weight.

14. The use of polymers having a statistical average of

- at least 4 carboxylic acid groups per polymer chain,

- a ratio of carbon atoms per acid group of 7 to 35 and

- an acid number of 80 to 320 mg KOH/g, determined by potentiographic titration with 0.5 molar aqueous hydrochloric acid after heating in 0.5 molar ethanolic potassium hydroxide solution for three hours

in additive packages comprising at least one additive selected from the group consisting of lubricity improvers (friction modifiers), corrosion inhibitors other than the polymers

described, demulsifiers, dehazers, antifoams, combustion improvers, antioxidants, stabilizers, antistats, metallocenes, metal deactivators, dyes and solvents, for reducing corrosion in gasoline fuels having a content of alkali metals and/or alkaline earth metals and/or zinc of at least 0.1 ppm up to 3900 ppm by weight.