WHAT IS CLAIMED IS:

1. A process comprising:

providing a target stream that comprises a carbonylatable reactant and a first aldehyde concentration;

and subjecting the target stream to a reaction comprising a supported catalyst that comprises at least one Group 8 to Group 11 metal at conditions sufficient to reduce the first aldehyde concentration to a second aldehyde concentration.

2. The process of claim 1, wherein the carbonylatable reactant comprises at least one member selected from the group consisting of methanol, methyl acetate, methyl formate, and dimethyl ether.

3. The process of claim 1, wherein the target stream comprises a target stream of a carbonylation process.

4. The process of claim 3, wherein the target stream comprises a process stream of the carbonylation process.

5. The process of claim 3, wherein the target stream comprises a feed stream of the carbonylation process.

6. The process of claim 1, wherein the first aldehyde concentration comprises acetaldehyde.

7. The process of claim 1, wherein the support comprises carbon.

8. The process of claim 1, wherein the support comprise carbon from coconut.

9. The process of claim 1, wherein the metal comprises at least one Group 8 to Group 10 metal.

10. The process of claim 1, wherein the metal comprises at least one Group 10 metal.

11. The process of claim 1, wherein the metal comprises at least palladium.

12. The process of claim 1, wherein the metal comprises at least platinum.

13. The process of claim 1, wherein the conditions comprise an oxidation regime.

14. The process of claim 1, wherein the conditions comprise a decomposition regime.

15. The process of claim 1, wherein the conditions comprise a molar ratio of oxygen feed to first aldehyde concentration greater than 0.5.

16. The process of claim 1, wherein the conditions comprise a molar ratio of oxygen feed to first aldehyde concentration greater than 1.

17. The process of claim 1, further comprising regenerating the catalyst.

18. A process comprising:

providing a target stream of a carbonylation process comprising a first aldehyde concentration;

providing the target stream to a reaction vessel containing a supported catalyst comprising at least one Group 8 to Group 11 metal;

subjecting the target stream to conditions sufficient to reduce the first aldehyde concentration; and

removing from the reaction vessel a treated stream comprising a second aldehyde concentration that is less than the first aldehyde concentration.

19. The process of claim 18, wherein the carbonylatable reactant comprises at least one member selected from the group consisting of methanol, methyl acetate, methyl formate, and dimethyl ether.

20. The process of claim 18, wherein the target stream comprises a process stream of the carbonylation process.

21. The process of claim 18, wherein the target stream comprises a feed stream of the carbonylation process.

22. The process of claim 18, wherein the first aldehyde concentration comprises acetaldehyde.

23. The process of claim 18, wherein the support comprises carbon.

24. The process of claim 18, wherein the support comprise carbon from coconut.

25. The process of claim 18, wherein the metal comprises at least one Group 8 to Group 10 metal.

26. The process of claim 18, wherein the metal comprises at least one Group 10 metal.

27. The process of claim 18, wherein the metal comprises at least palladium.

28. The process of claim 18, wherein the metal comprises at least platinum.

29. The process of claim 18, wherein the conditions comprise an oxidation regime.

30. The process of claim 18, wherein the conditions comprise a decomposition regime.

31. The process of claim 18, wherein the conditions comprise a molar ratio of oxygen feed to first aldehyde concentration greater than 0.5.

32. The process of claim 18, wherein the conditions comprise a molar ratio of oxygen feed to first aldehyde concentration greater than 1.

33. The process of claim 18, further comprising regenerating the catalyst.

34. A process comprising:

providing a feed stream of a carbonylation process comprising a carbonylatable reactant and a first aldehyde concentration;

providing the feed stream to a reaction vessel containing a supported catalyst comprising at least one Group 8 to Group 11 metal;

subjecting the feed stream to conditions sufficient to reduce the first aldehyde concentration; and

removing from the reaction vessel a treated stream comprising a second aldehyde concentration that is less than the first aldehyde concentration.

35. The process of claim 34, wherein the first aldehyde concentration comprises acetaldehyde.

36. The process of claim 34, wherein the support comprises carbon.

37. The process of claim 34, wherein the support comprise carbon from coconut.

38. The process of claim 34, wherein the metal comprises at least one Group 8 to Group 10 metal.

39. The process of claim 34, wherein the metal comprises at least one Group 10 metal.

40. The process of claim 34, wherein the metal comprises at least palladium.

41. The process of claim 34, wherein the metal comprises at least platinum.

42. The process of claim 34, wherein the conditions comprise an oxidation regime.

43. The process of claim 34, wherein the conditions comprise a decomposition regime.

44. The process of claim 34, wherein the conditions comprise a molar ratio of oxygen feed to first aldehyde concentration greater than 0.5.

45. The process of claim 34, further comprising regenerating the catalyst.

What is claimed is:

1. A process comprising: contacting a gas phase target stream that comprises a carbonylatable reactant and a first aldehyde concentration with a supported catalyst that comprises at least one Group 8 to Group 11 metal at conditions sufficient to reduce the first aldehyde concentration to a second aldehyde concentration.

2. The process of claim 1, wherein the carbonylatable reactant comprises at least one member selected from the group consisting of methanol, methyl acetate, methyl formate, and dimethyl ether.

3. The process of claim 1, wherein the target stream comprises a target stream of a carbonylation process.

4. The process of claim 3, wherein the target stream comprises a process stream of the carbonylation process.

5. The process of claim 3, wherein the target stream comprises a feed stream of the carbonylation process.

6. The process of claim 1, wherein the first aldehyde concentration comprises acetaldehyde.

7. The process of claim 1, wherein the support comprises carbon.

8. The process of claim 1, wherein the support comprise carbon from coconut.

9. The process of claim 1, wherein the metal comprises at least one Group 8 to Group 10 metal.

10. The process of claim 1, wherein the metal comprises at least one Group 10 metal.

11. The process of claim 1, wherein the metal comprises at least palladium.

12. The process of claim 1, wherein the metal comprises at least platinum.

13. The process of claim 1, wherein the conditions comprise an oxidation regime.

14. The process of claim 1, wherein the conditions comprise a decomposition regime.

15. The process of claim 1, wherein the conditions comprise a molar ratio of oxygen feed to first aldehyde concentration greater than 0.5.

16. The process of claim 1, wherein the conditions comprise a molar ratio of oxygen feed to first aldehyde concentration greater than 1.

17. The process of claim 1, further comprising regenerating the catalyst.

18. A process comprising: contacting a target stream of a carbonylation process comprising a first aldehyde concentration in the gas phase with a supported catalyst comprising at least one Group 8 to Group 11 metal within a reaction vessel at conditions sufficient to produce a treated stream having a second aldehyde concentration that is less than the first aldehyde concentration; and removing the treated stream from the reaction vessel.

19. The process of claim 18, wherein the carbonylatable reactant comprises at least one member selected from the group consisting of methanol, methyl acetate, methyl formate, and dimethyl ether.

20. The process of claim 18, wherein the target stream comprises a process stream of the carbonylation process.

21. The process of claim 18, wherein the target stream comprises a feed stream of the carbonylation process.

22. The process of claim 18, wherein the first aldehyde concentration comprises acetaldehyde.

23. The process of claim 18, wherein the support comprises carbon.

24. The process of claim 18, wherein the support comprise carbon from coconut.

25. The process of claim 18, wherein the metal comprises at least one Group 8 to Group 10 metal.

26. The process of claim 18, wherein the metal comprises at least one Group 10 metal.

27. The process of claim 18, wherein the metal comprises at least palladium.

28. The process of claim **18**, wherein the metal comprises at least platinum.

29. The process of claim **18**, wherein the conditions comprise an oxidation regime.

30. The process of claim **18**, wherein the conditions comprise a decomposition regime.

31. The process of claim **18**, wherein the conditions comprise a molar ratio of oxygen feed to first aldehyde concentration greater than 0.5.

32. The process of claim **18**, wherein the conditions comprise a molar ratio of oxygen feed to first aldehyde concentration greater than 1.

33. The process of claim **18**, further comprising regenerating the catalyst.

34. A process comprising: providing a gas phase feed stream of a carbonylation process comprising a carbonylatable reactant and a first aldehyde concentration to a reaction vessel containing a supported catalyst comprising at least one Group 8 to Group 11 metal; contacting the gas phase feed stream with the supported catalyst within the reaction vessel at conditions sufficient to produce a treated stream comprising a second aldehyde concentration that is less than the first aldehyde concentration; and removing the treated stream from the reaction vessel.

35. The process of claim **34**, wherein the first aldehyde concentration comprises acetaldehyde.

36. The process of claim **34**, wherein the support comprises carbon.

37. The process of claim **34**, wherein the support comprise carbon from coconut.

38. The process of claim **34**, wherein the metal comprises at least one Group 8 to Group 10 metal.

39. The process of claim **34**, wherein the metal comprises at least one Group 10 metal.

40. The process of claim **34**, wherein the metal comprises at least palladium.

41. The process of claim **34**, wherein the metal comprises at least platinum.

42. The process of claim **34**, wherein the conditions comprise an oxidation regime.

43. The process of claim **34**, wherein the conditions comprise a decomposition regime.

44. The process of claim **34**, wherein the conditions comprise a molar ratio of oxygen feed to first aldehyde concentration greater than 0.5.

45. The process of claim **34**, wherein the conditions comprise a molar ratio of oxygen feed to first aldehyde concentration greater than 1.

46. The process of claim **34**, further comprising regenerating the catalyst.