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(54) Title: BUTADIENE PRODUCTION FROM USED TIRES

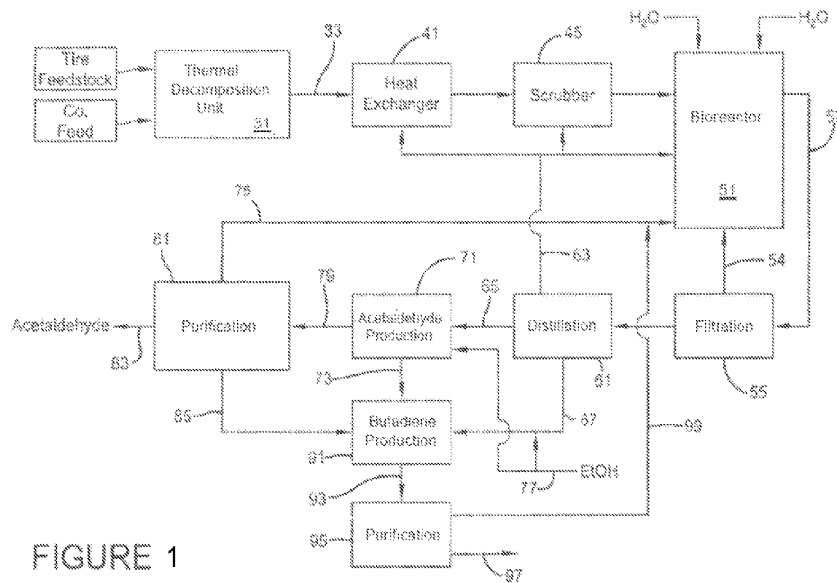


FIGURE 1

(57) Abstract: A process comprising (a) providing used tire feedstock; (b) gasifying the used tire feedstock to produce a gaseous stream, where the gaseous stream includes carbon monoxide, hydrogen, and carbon dioxide; (c) biosynthetically converting at least a portion of the carbon monoxide, hydrogen, and carbon dioxide within the gaseous stream to produce a first product stream; (d) converting at least a portion of the first product stream to a second product stream, where the second product stream includes acetaldehyde and hydrogen; (e) routing a portion of the hydrogen within the second product stream to said step of biosynthetically converting at least a portion of the carbon monoxide, hydrogen, and carbon dioxide within the gaseous stream; and (f) converting at least a portion acetaldehyde to butadiene monomer.

[Continued on next page]

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