

CLAIMS

1. A waste plastic separation method comprising separating a mixed plastic waste (MPW) into a polyethylene terephthalate (PET)-enriched stream and a PET-depleted stream,
wherein said separating comprises a first density separation stage and a second density separation stage, wherein said first density separation stage is a high-density sink-float density separation stage having a target separation density of at least 1.31, and
wherein said PET-enriched stream comprises at least 70 weight percent PET on a dry basis and at least 0.1 weight percent and not more than 10 weight percent halogens on a dry basis.
2. The method of claim 1,
wherein said separating comprises a first density separation stage and a second density separation stage,
wherein said first density separation stage is a high-density sink-float density separation stage, and
wherein said second density separation stage is a low-density centrifugal density separation stage.
3. The method of claim 1,
wherein at least 50 weight percent of a PVC content in said MPW is separated from said MPW together with the PET into said PET-enriched stream.
4. A waste plastic separation method comprising:
 - (a) introducing mixed waste plastic (MPW) particulates into a first density separation stage; and
 - (b) feeding an output stream from said first density separation stage into a second density separation stage,wherein one of said first and second density separation stages is a low-density separation stage and the other of said first and second density separation stages is a high-density separation stage,
wherein said low-density separation stage has a target separation density that is less than 1.35 g/cc and at least 1.25 g/cc,
wherein said high-density separation stage has a target separation density that is at least 1.31 and at least 0.01 g/cc greater than the target separation density of said low-density separation stage.

5. The method of claim 4, wherein said first density separation stage has a separation efficiency with respect to PET of at least 90 percent, and/or wherein said second density separation stage has a separation efficiency with respect to PET of at least 90 percent.

6. The method of claim 4, wherein said first density separation stage is a high-density sink-float density separation stage, and wherein said second density separation stages is a low-density centrifugal density separation stage.

7. A waste plastic separation method comprising:

- (a) introducing mixed plastic waste (MPW) particulates into a high-density sink-float density separation stage having a target separation density of at least 1.31; and
- (b) feeding an output stream from said high-density sink-float density separation stage into a low-density centrifugal density separation stage.

8. A waste plastic separation method comprising separating a mixed plastic waste (MPW) comprising nylons into a polyethylene terephthalate (PET)-enriched stream and a PET-depleted stream, wherein said PET-enriched stream is depleted in nylons and said separation method comprising a sink float density separation stage having a target separation density of at least 1.31.

9. The method of claim 8, wherein said separating comprises a first density separation stage and a second density separation stage, wherein said first density separation stage is a high-density sink-float density separation stage, and wherein said second density separation stages is a low-density centrifugal density separation stage.