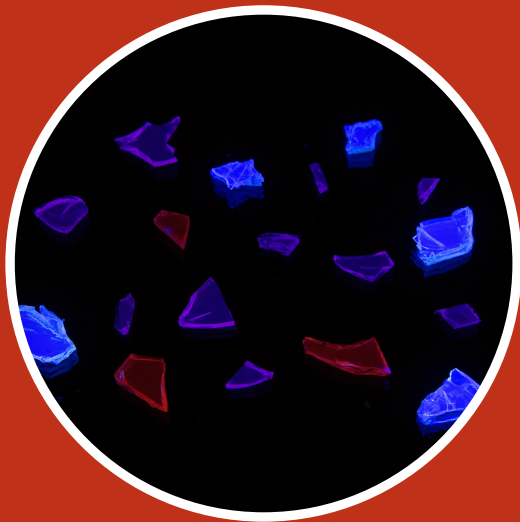


PLASTICS RECYCLING

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In today's world, plastic recycling has become an important issue. On the one hand, plastics is an "umbrella" material that modern society can't do without, at the same time it threatens the planet's ecosystem. From the circular economy point of view, recycling is the only sustainable way for us to progress both socially and economically.

Protection: International

Inventors: Paola Ceroni, Francesco Romano

INVENTION

Many polymeric materials are not recycled nowadays, since a convenient and efficient automated separation system has not been developed yet. One of the biggest challenges in the field of plastics recycling is the **differentiation of multi-waste materials into monomaterials** with a high degree of purity. The invention consists of **a method for separating different plastics materials**, intended for recycling, by inserting luminescent markers therein. The plastic materials, in which the markers have been inserted, can be univocally recognized by an optical detector.

APPLICATIONS

- Recognition of plastic materials;
- Recycling of plastic that conventional systems do not recognize or separate;
- Separation of black plastic, currently not recycled;
- Counterfeiting.

ADVANTAGES

- High availability of silicon in the earth's crust;
- Silicon being light- and heat resistant, low toxic material;
- Excellent optical properties of silicon nanostructures;
- Simplicity of the process.

CONTACTS

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