
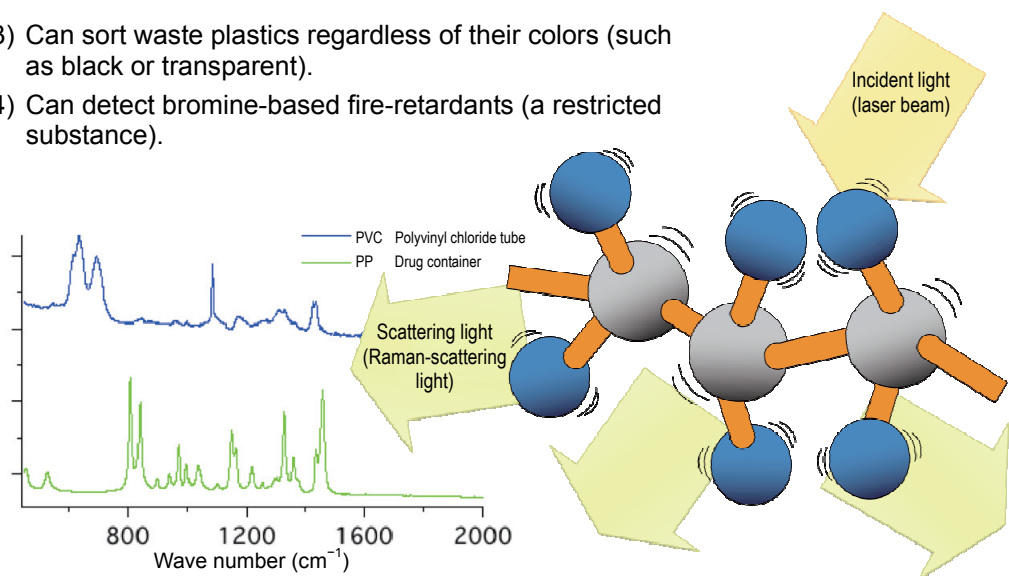


Technical Information Sheet

1. Name of technology	Mixed waste plastic sorter (Raman plastic sorter)
2. Type of technology	This technology is used to quickly and accurately sort mixed waste plastics by material type for recycling. It is a state-of-the-art technology that employs Raman spectroscopy.
3. Description of technology	
Objective, application, characteristics, delivery record, and price of technology	<p>[Objective and application of the technology]</p> <p>Waste plastics contain a variety of materials, and in order to recycle them, it is necessary to sort them by material type. However, since this material-based sorting and recycling is technically difficult, plastics are mostly incinerated or landfilled. Our Raman plastic sorter can efficiently sort such materials—hitherto disposed of as garbage—enabling them to be converted into valuable domestic resources.</p> <p>[Characteristics of the technology]</p> <p>These photographs show a plastic sorter constructed for the 2009 industrial technology development project commissioned by the Ministry of Economy, Trade and Industry.</p>  <p>Our versatile Raman plastic sorter based on Raman spectroscopy offers great advantages over conventional products in the following respects:</p> <ol style="list-style-type: none"> (1) Performs precise, large-scale volume sorting because the Raman technique provides contactless, intrinsic and fast identification of molecular structures compared to other optical techniques. (2) Can sort waste plastics in any condition, i.e., irrespective of surface water or dirt, bending, etc.. (3) Can sort waste plastics regardless of their colors (such as black or transparent). (4) Can detect bromine-based fire-retardants (a restricted substance).  <p>Example of Raman spectroscopy data for a PVC pipe(PVC) and a drug container (PP); substances are identified through the analysis of these waveforms.</p> <p>When a material is irradiated with a laser, the wavelength of light changes as a part of the laser beam is affected by molecule vibrations. This phenomenon is referred to as the Raman effect.</p>

	<p>[Delivery record] Two systems are now in operation in Japan.</p> <p>[Price and other inquiries] Saimu Corporation 430-42, Yoshikuma, Keisen-machi, Kaho-gun, Fukuoka, Japan TEL: +81-948-20-2081, FAX: +81-948-65-3795, E-mail: info@saimu-net.ne.jp</p>
4. Classification of technology	
(1) Applicable fields	Recycling (materials)
(2) Target waste	Waste plastic, Electric home appliances, Electronic products, Cellular phones, Automobiles
(3) Services provided	Sales of machinery and equipment
5. Countries to which this technology can be provided	Any region or country
6. Keywords	Raman Spectrometer, sorting technology, recycling, waste material, plastics
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