

## LIQUEFACTION RECYCLING TECHNOLOGY OF MEDICAL TREATMENT SYSTEM WASTE PLASTIC

K. Nozaki<sup>1</sup>, H. Ibe<sup>1</sup>

<sup>1</sup>Altis Co.,Ltd.  
e-mail: k.nozaki@altis.ne.jp

### Abstract

Medical equipments accompanies the expansion of plastics materials application, and the exhaust thing becomes various. The technology that safely collects the resource from various plastic is hoped for. Then, Altis Co.,Ltd is recycled because it works as group businesses that construct the venous system for Olympus Corporation., and the medical treatment system waste of plastic material is sterilized and it liquefies.

**Keywords:** Waste plastic , infectious medical wastes , pyrolytic oil, sterilization technique

### 1. Introduction

The medical equipment accompanies the expansion of the plastics material application in recent years, and the exhaust thing becomes more various. The technology that safely collects the resource from various plastic is hoped for.

Liquefaction by the pyrolysis introduces here is thought to be the most effective as the method. This system was established by having the sterilization technique (utilization of heat) that needed the hospital waste so far, and uniting with the pyrolytic technology by carbonization (no oxygen).

Not only cracked oil but also the generated residue and the resource and the energy recovery from an off gas are scheduled to be advanced in the future.

### 2. Materials and Factory

The acceptance objects are the waste plastics, infectious medical wastes such as PE, PP, and PS, and it is processed and the processing scale is processed during 10T/day in the Akita office (Be operating in 2008). It is an operation schedule in the Nagano office on the processing scale in 2011 during 6T/day and in 2012 during 40T/day, and the processing plan is done ,divided into two portions.

### 3. Results and Discussion

The customer of the recycling thing sells to light-sulfer oil's (A crude petroleum corresponding) private use and oil manufacturing company, sells for the fuel heavy fuel's (C crude petroleum corresponding) power generation and boiler, etc. , and sells for Residue RPF such as power plant, boilers, and cement plants for the fuel as a substitute.

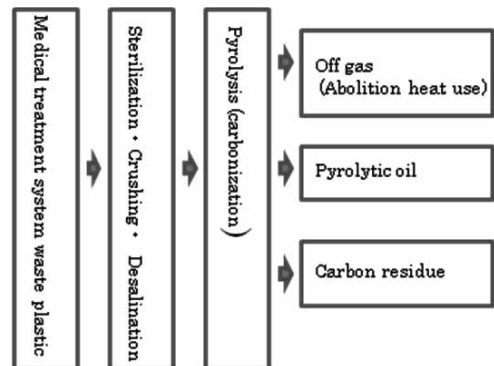


Fig.1. Flow of making to oil



Fig.2. Akita office (liquefaction plant)

#### 4. Conclusions

Our company is working on a total capitalization of the waste plastic (city oilfield development) as achievement and a recycling society promotion, etc. of the resource large country that is the national policy of our country. It is a approach as group businesses that construct the venous system for Olympus Corporation. that manufactures and sells apparatus for the medical treatment.

A plastic liquefaction recycling technology has the feature of the low carbonization and the resource reduction compared with the recycling technique that has been widely done so far. Recycled goods of the pyrolytic technology that advancement, maturity, and the aspect are waited for and the additional value is high (cracked oil) in recent years can be manufactured. Generated cracked oil and and carbon residue decomposition method produces the freedom of their use is advantageous about the reservoir, which can be applied in many industries.

Moreover, the expectation rises as environmental measures of the enterprise that uses those products because the negative environmental impact when generating it is small.

Our company doesn't limit to the medical waste, and be working on rationalization by using with the heat use facilities like the drying treatment etc. of the food residue together positively.