Materials requirements for chemical recycling trials (pyrolysis, solvolysis …)

The customer will provide the maximum of information (safety data sheet, technical data sheet …) about the composition of the recycled material in order to prevent any risk for the operators during the chemical recycling trials. Certech reserves the right to refuse some hazardous materials like health-care infectious waste, plastics having contained hazardous products (SVHC).

Every tested recycled material has to be characterised and the results consolidated under the form of a certificate of analysis (CoA).
The CoA will contain all the data useful for the trials' safety and efficiency, including at least:

- Particles size (<8 mm)
- Description of the particles shape (flakes, pellets, fibres, fluff…)
- Apparent density of the material
- Presence of non-melting materials (metals, stones, long fibres, thermoset resins …) and size of these particles (<3 mm)
- Chlorine concentration in the stream (<0,5 wt% Chlorine / 1% PVC)
- Bromine concentration in the stream (case by case)
- Water content (<1% of moisture for 100% polymer materials and < 5% for materials containing vegetal fillers)

If the supplier of recycled material does not provide this CoA, Certech will analyse the material at the supplier's expenses.

In case of out-of-spec material.

The diameter of the recycled material particles has to be lower than 8 mm, otherwise the materials will be grinded by Certech or a partner laboratory with additional costs for the customer.

If the moisture content is higher than 1% for pure polymer materials and higher than 5% for materials containing vegetal fillers, the materials will be dried using air dryers with a dew point of -40°C, with additional costs for the customer.

Any material containing more than 1% of polyvinylchloride (PVC) can cause irreversible damage to the process equipment. If a damage linked to PVC occurs to the equipment during the trials, the repair or the replacement of broken parts will be charged to the customer.

Recycled materials will have to be free of hard and non-melting contaminants having a diameter higher than 1mm (such as metals, stones, long fibres, thermoset resins …). If a damage linked to such contaminants occurs to the equipment during the trials, the repair or the replacement of broken parts will be charged to the customer. In the case of suspected contaminations, an identification can be performed by Certech with additional costs for the customer. In order to remove the contaminants,

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screening methods can be applied to the materials by a partner laboratory with additional costs for the customer.

If the recycled material is supplied in a big bag packaging, the customer will ensure its homogeneity in order to allow for representative random sampling. If it's not the case, a mechanical homogenization will be performed with additional costs for the customer.

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