

Customer information:

Taking samples on biogas plants

- 1) Equipment has to be used that not modifies the characteristic of the sample by releasing substances or altering its composition.
- 2) At the time of sample taking, the content of the fermenting tank has to be as it is under normal operation. Samples should not be taken directly after feeding, but just previous to the next feeding. Another important point is, that the fermenter content has to be stirred homogenously by mixers beforehand. This has also to be done before sample taking from the secondary fermenter. Sample taking from resting material is not acceptable.
- 3) The sample taking from a **tapping port** is tolerable, if the fermenter content is thoroughly stirred. The stirring time is dependent on agitator type and system. It has to be secured that the sample is taken from fermenter material and not represents residues of the tapping port. That is why before taking the final sample; the threefold volume of the tube should be let off and thrown away.
- 4) Sample taking from a **branch line** can be performed, if it is secured that the tank content can be pumped within the system in a closed circle. The tubes and the tap point have to be flushed sufficiently. This varies between facility types, method of operation, tube length and tube volume. Before sample taking the threefold tube volume has to be let off and thrown away.
- 5) Sample taking from an **overflow** into a secondary fermenter is not recommendable.
- 6) If taking samples from open tanks, a floating deck has to be stirred up beforehand. Material from a floating deck is not supposed to be a representative sample.
- 7) The obtained sample has to come into a dry, clean and moisture impenetrable lab-bottle, which is provided by our lab. Please fill the bottle to max 3/4th. **Nawaro plants** compress the sample bottle before closing it so that the filling level is flush with the bottle cap. **Waste plants** do **not compress** the sample bottles, but fill them only up to 3/4th.
- 8) Please label the bottle precisely. At least notify the substrate, the sampling date and the name of the biogas plant.
- 9) Cool the sample down right after taking it. Use a bucket with cold water for it and leave the samples there for at least 30 minutes. Frozen samples are not acceptable for biological and microbiological analysis. Please protect the samples against sun and heat.
- 10) The cooled samples should be posted within the same day of sample taking, preferable with a courier. It should be avoided to send samples over weekend or holidays. If it necessary, please arrange it with the laboratory.

- 11) The sampling protocol should at least contain following information
 - a. Sampling date
 - b. Name and address of the biogas plant
 - c. Identification of the tapping port
 - d. Name of the sample taker
 - e. Address of the principal
 - f. Characteristics at sample taking.

A letter with specifications and informations of type and amount of input substances, process relevant characteristics (temperature, amount of gas and its quality etc) and the scope of analysis has to be attached to the samples.