

CHAPTER V

CONCLUSION

Nanooxide of SnO₂ (8 nm) was synthesized in the microemulsion of non-ionic surfactants. High surface area as high as 45 m²/g in cassiterite or rutile structure could be obtained at 550°C of the calcination temperature.

The surfactant structure, water content, and temperature were important factors in controlling the micellar size. The small size of the reverse micelle can be obtained from the surfactant that has the small polar head group. The water content in the microemulsion system increased the size of the micelle. An increase in temperature has affected on the microemulsion formation which depends on the structure of surfactant.

The small amount of co-surfactant reduces the repulsive force of the polar head group of surfactant and thus decreases the micellar size. The concentration of metal salt precursor has slightly affected on the size of reverse micelle.

The nanooxide of SnO₂ which was very small and uniform size can be used as the sensing material and increase the sensitivity of the CO gas sensor.