

AN ABSTRACT OF A THESIS

DRYING OF IODINE-CONTAINING AIR USING MOLECULAR SIEVES

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Master of Science in Chemical Engineering

A series of runs were conducted on a packed bed drying system containing Type 3A molecular sieves. Inlet gas humidities varied from 0.0065 to .0099 grams of water per gram of dry air. The inlet gas also contained iodine vapor at a concentration of 0.0004 to 0.0009 grams of iodine per gram of dry air. This investigation was used to determine the effect of iodine on the drying capacity of the Type 3A molecular sieves. Another series of experiments were conducted on the regeneration cycles of beds loaded with water to find the variation of the test column outlet gas temperature and dew point temperature of the purge stream with elapsed regeneration time.

The results indicated that iodine had very little effect on the drying capacity of the molecular sieves for the given conditions. The dew point was found to be almost constant over the elapsed regeneration time, whereas the test column outlet gas temperature varied considerably with regeneration time.

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USING MOLECULAR SIEVES

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