

FINAL TECHNICAL REPORT

Contract DE-AC22-81PC40077

March 1981 - September 1984

LIQUID HYDROCARBON FUELS FROM SYNGAS

Patent Hold

This document, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U. S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Chief Office of Patent Counsel, U. S. Department of Energy, 9800 South Cass Avenue, Argonne, Illinois 60439.

DOE-CH Form 383 (Rev. 6-78)

Molecular Sieve Department
Catalysts and Services Division

Union Carbide Corporation
Tarrytown Technical Center
Tarrytown, New York 10591

Table of Contents

A. Contract Protocol

I. Contract Objective.....	iv
II. Schedule.....	v
III. Organization.....	vi
IV. Summary of Progress.....	vii

B. Technical Report

I. Abstract.....	1
II. Introduction.....	2
III. Experimental Apparatus.....	6
IV. Analytical Procedures.....	10
V. Task 1 Studies.....	16
(Microporous catalysts without metal component using methanol or propylene as feed)	
VI. Task 2 Studies.....	42
(Microporous catalysts with metal components using CO and H ₂ syngas as feed)	
VII. Process Simulation Studies	78
UCC F-T Catalysts in an ARGE-Type Fixed Bed, Tubular Reactor System	
Figures 1 - 80.....	83
Tables 1 - 33.....	159