Liquid hydrocarbons from coal and natural gas

Registration No.	Number 00302		
Registration Date	September 14, 2021	Registration Category	Category 1

Name (Model, etc.)	Fischer-Tropsch process for synthetic oil - catalysts and samples
Location	Uji-shi, Kyoto
	Institute for Chemical Research, Kyoto University
Owner (Custodian)	Institute for Chemical Research, Kyoto University
Manufacturer (Company)	Institute for Chemical Research, Kyoto University
Year Manufactured	1937–1939 approx.
Year first appeared	1927
Reason For Selection	This is an important collection of catalysts and synthetic oils (liquid hydrocarbons) that were developed as part of the commercialization of a synthetic oil production system based on the Fischer-Tropsch (F-T) process. The objective was to provide an alternative source of liquid fuel in shortage at a time of international tensions. The F-T process is a catalytic reaction that produces synthetic oil from carbon monoxide and hydrogen. The aim was to produce synthetic oil from plentiful and widely dispersed coal and natural gas reserves, as a solution to skyrocketing oil prices. The F-T process can also potentially be applied to the production of carbon-neutral fuels from biomass. The Genitsu Kita Laboratory at Institute for Chemical Research, Kyoto University, started researching F-T process catalysts back in 1927. In 1937, the Laboratory began work on iron-based catalysts as an alternative to conventional cobalt. The first continuously operational test system was completed in 1939, and the first production plant began operations in 1942 at Takikawa in Hokkaido. There are many records and documents surviving from that time. The collection provides significant insight into the correlation between pure research, technology development and commercialization in the context of the wider socio-political settings of the time.
Registration Standard	1-E (Have significant educational value in the task of handing on scientific and technological skills as examples of trial and error, failure, etc.) 2-C (Show an important event or phenomenon in the relationship between society and culture on the one hand and science and technology on the other.)

Open/Closed to Public	Closed to Public

Photo

Fischer-Tropsch process for synthetic oil - catalysts and

Designs/blueprints, a collection of photos

Test notes and experimental data sets

Draft research reports, off-prints of scientific

Other useful information	