Document details

‹ Back to results | 1 of 1

Export Download Print E-mail Save to PDF Add to List More... ›

Full Text View at Publisher

Energy Sources, Part A: Recovery, Utilization and Environmental Effects
2019

Aluminum foil waste as catalyst for esterification of waste cooking oil

(Article in press ?)

Sulaiman, S. ✉, Restu, I.A.

Department of Biotechnology Engineering, Faculty of Engineering, International Islamic University Malaysia, Kuala Lumpur, Malaysia

Abstract

View references (15)

In this study, aluminum chloride hexahydrate ($AlCl_3.6\ H_2O$) was derived from aluminum foil waste as a heterogeneous acid catalyst in the esterification of waste cooking oil. The parameters of catalyst loading (2–8 wt%), ultrasonic frequency (12–40 kHz), and reaction time (15–60 min) were optimized for maximum biodiesel yield production. Under constant condition of methanol to oil molar ratio of 6:1 and temperature of 50°C, a biodiesel yield of 91% was obtained at 2 wt% catalyst loading, 26 kHz ultrasonic frequency, and 40 min reaction time. © 2019, © 2019 Taylor & Francis Group, LLC.

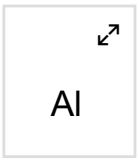
SciVal Topic Prominence

Topic: Biodiesel | Transesterification | Produce biodiesel

Prominence percentile: 99.859

Chemistry database information

Substances



Author keywords

Aluminum foil waste | esterification | solid catalyst | ultrasonic | waste cooking oil

Indexed keywords

Engineering controlled terms: Aluminum | Esterification | Esters | Molar ratio | Ultrasonic waves | Ultrasonics

Metrics View all metrics ›

PlumX Metrics
Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 0 documents

Inform me when this document is cited in Scopus:

Set citation alert ›

Set citation feed ›

Related documents

Ultrasound assisted biodiesel production in presence of dolomite catalyst
Korkut, I. , Bayramoglu, M.
(2016) Fuel

Insight into the catalytic conversion of palm oil into biodiesel using Na^+/K^+ trapped muscovite/phillipsite composite as a novel catalyst: Effect of ultrasonic irradiation and mechanism
Abukhadra, M.R. , Salam, M.A. , Ibrahim, S.M.
(2019) Renewable and Sustainable Energy Reviews

Synthesis of Na^+ trapped bentonite/zeolite-P composite as a novel catalyst for effective production of biodiesel from palm oil; Effect of ultrasonic irradiation and mechanism
Abukhadra, M.R. , Ibrahim, S.M. , Yakout, S.M.
(2019) Energy Conversion and Management

Engineering uncontrolled terms: Catalyst loadings | Constant conditions | Heterogeneous acid catalysts | Solid catalysts | Ultrasonic frequency | Waste cooking oil | Yield production

Engineering main heading: Oils and fats

View all related documents based on references

Find more related documents in Scopus based on:

Authors > Keywords >

ISSN: 15567036
DOI: 10.1080/15567036.2019.1662137
Source Type: Journal
Document Type: Article
Original language: English
Publisher: Taylor and Francis Inc.

References (15)

View in search results format >

1 Abukhadra, M.R., Dardir, F.M., Shaban, M., Ahmed, E.A., Soliman, M.F.

Spongy Ni/Fe carbonate-fluorapatite catalyst for efficient conversion of cooking oil waste into biodiesel

(2018) *Environmental Chemistry Letters*, 16 (2), pp. 665-670. Cited 10 times.
http://springerlink.metapress.com/app/home/journal.asp?wasp=d86tgdwvtg0yvw9gvkwp&referrer=parent&backto=browsepublicationsresults,140,541;
doi: 10.1007/s10311-017-0695-2

View at Publisher

2 Abukhadra, M.R., Sayed, M.A.

K^+ trapped kaolinite (Kaol/K^+) as low cost and eco-friendly basic heterogeneous catalyst in the transesterification of commercial waste cooking oil into biodiesel

(2018) *Energy Conversion and Management*, 177, pp. 468-476. Cited 15 times.
doi: 10.1016/j.enconman.2018.09.083

View at Publisher

3 Cherikkallinmel, S.K., Gopalakrishnan, A., Yaakob, Z., Ramakrishnan, R.M., Sugunan, S., Narayanan, B.N.

Sodium aluminate from waste aluminium source as catalyst for the transesterification of Jatropha oil

(2015) *RSC Advances*, 5 (57), pp. 46290-46294. Cited 10 times.
http://pubs.rsc.org/en/journals/journalissues
doi: 10.1039/c5ra05982h

View at Publisher

4 Chew, K.Y., Tan, W.L., Abu Bakar, N.H.H., Abu Bakar, M.

Transesterification of palm cooking oil using barium-containing titanates and their sodium doped derivatives (Open Access)

(2017) *International Journal of Energy and Environmental Engineering*, 8 (1), pp. 47-53. Cited 4 times.
http://www.journal-ijeee.com/
doi: 10.1007/s40095-016-0222-4

View at Publisher