

SELECTED PAPERS IN COMMEMORATE

Syncrude焦化重瓦斯油中甲苯不溶物的分离

许志明<sup>a</sup>, 王宗贤<sup>a</sup>, L. S. Kotlyar<sup>b</sup>, K. H. Chung<sup>c</sup>

<sup>a</sup> State Key Laboratory of Heavy Oil Processing, University of Petroleum, Beijing, 102249, China

<sup>b</sup> National Research Council of Canada, Institute for Chemical Process and Environmental Technology, Ottawa, Canada, K1A 0R6

<sup>c</sup> Syncrude Canada Ltd., Edmonton Research Centre, Edmonton, Canada, T6N 1H4

收稿日期 修回日期 网络版发布日期 接受日期

**摘要** Toluene insoluble matter (TIM) in coker heavy gas oil (CHGO) from oil sands bitumen is harmful to the downstream hydrotreating, and it may be difficult to be removed by conventional filtration. In order to determine its origin, the TIM must first be separated from CHGO for characterization. Two techniques are described to accomplish this goal. In the ultra-centrifugation approach used in this work, CHGO is blended with a miscible liquid and centrifuged under 366000 G (gravity) force. Through this procedure toluene and hexane diluents yielded TIM contents of 24 $\mu\text{g}\cdot\text{g}^{-1}$  and 88 $\mu\text{g}\cdot\text{g}^{-1}$  respectively. In an alternative simplified procedure, the initial ultracentrifugation step is omitted. Several different solvents are evaluated for use as diluents but, in each case, toluene is still used in the subsequent washing steps. TIM contents determined by this method range from 23 to about Other conditions, such as diluent-oil ratio, water-oil ratio, mixing time, temperature and water pH value, are also studied.

**关键词** [separation](#) [toluene insoluble matter](#) [coker heavy gas oil](#)

分类号

**DOI:**

**Separation of Toluene Insoluble Matter from Syncrude Coker Heavy Gas Oil**

XU Zhiming<sup>a</sup>, WANG Zongxian<sup>a</sup>, L. S. Kotlyar<sup>b</sup>, K. H. Chung<sup>c</sup>

<sup>a</sup> State Key Laboratory of Heavy Oil Processing, University of Petroleum, Beijing, 102249, China

<sup>b</sup> National Research Council of Canada, Institute for Chemical Process and Environmental Technology, Ottawa, Canada, K1A 0R6

<sup>c</sup> Syncrude Canada Ltd., Edmonton Research Centre, Edmonton, Canada, T6N 1H4

Received Revised Online Accepted

**Abstract** Toluene insoluble matter (TIM) in coker heavy gas oil (CHGO) from oil sands bitumen is harmful to the downstream hydrotreating, and it may be difficult to be removed by conventional filtration. In order to determine its origin, the TIM must first be separated from CHGO for characterization. Two techniques are described to accomplish this goal. In the ultra-centrifugation approach used in this work, CHGO is blended with a miscible liquid and centrifuged under 366000 G (gravity) force. Through this procedure toluene and hexane diluents yielded TIM contents of 24 $\mu\text{g}\cdot\text{g}^{-1}$  and 88 $\mu\text{g}\cdot\text{g}^{-1}$  respectively. In an alternative simplified procedure, the initial ultracentrifugation step is omitted. Several different solvents are evaluated for use as diluents but, in each case, toluene is still used in the subsequent washing steps. TIM contents determined by this method range from 23 to about Other conditions, such as diluent-oil ratio, water-oil ratio, mixing time, temperature and water pH value, are also studied.

**Key words** [separation](#); [toluene insoluble matter](#); [coker heavy gas oil](#)

通讯作者:

许志明 [scf@bjpeu.edu.cn](mailto:scf@bjpeu.edu.cn)

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF](#) (1408KB)

▶ [\[HTML全文\]](#) (0KB)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [引用本文](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“separation”的 相关文章](#)

▶ 本文作者相关文章

· [许志明a](#)

· [王宗贤a](#)

· [L S Kotlyarb](#)

· [K H Chungc](#)

