Long-gang Ye

A PHD Candidate in School of Metallurgy and Environment

Central South University

No. 932 Lushan South Road

410083 Changsha

PR China

yelonggang@sina.cn

Dear Editor:

Please excuse me for taking some of your time.

I am submitting a manuscript entitled “Removal of lead from crude antimony by using NaPO3” for your kind consideration of its suitability for publication in Metallurgical and Materials Transaction B.

In this paper, a new process was provided using NaPO3 instead of amine salt as lead elimination reagent to generate phosphate slag. Reaction mechanism was clarified by using the TG-DTA and XRD techniques and single factor experiments of removal lead from crude antimony were engaged. The results show that PbO and NaPO3 mainly yield NaPb4(PO4)3 and NaPbPO4 when below 1123K and above 1123K respectively. The reaction product of the mixture of PbO, Sb2O3 and NaPO3 show that NaPO3 reacted with PbO prior when NaPO3 was insufficient. Single factor experiments were taken agent under argon, effect of reaction time, reaction temperature and dosage of NaPO3 and NaNO3 on smelting results. The content of lead in refined antimony was 0.05633% and 98.85% of lead were removed under optimal conditions; the content of lead in antimony have meet the requirements of commercial antimony, so NaPO3 is a cleaning and highly effective lead elimination agent.

We hereby confirm that this manuscript is out original work and has been published nor has it been submitted simultaneously elsewhere. We further confirmed that all authors have checked the manuscript and have agreed to the submission.

The corresponding author of this paper is my second tutor Chao-bo Tang, A associate professor in central south university. His contact information is as fellows:

*Address*: School of metallurgy and Environment, Central South University, No.932 Lushan South Road, Changsha, PR China

*E-mail* address: tangchaobo9043@163.com

Thank you very much for your time and consideration.

Sincerely yours,

Long-gang Ye