

Shannon Hayden

Subject: FW: Toxicological data for flocculants to be used at NICO
Attachments: MSDS MIBC_INT_EN.pdf; PAX - 00060600.pdf

From: Rick Schryer
Sent: Thursday, February 09, 2012 8:11 AM
To: 'Chuck Hubert'
Subject: RE: Toxicological data for flocculants to be used at NICO

Attached are the MSDS sheets for the two flocculants to be used at the NICO site. I have also added some words concerning their use and fate in the process. I trust this information will satisfy the homework assignment on flocculants.

Flocculant doses are generally very dilute and are used on both the tailings and concentrate thickeners. The dose for the tailings thickener will be very dilute. The purpose of the flocculant is to coagulate the fine solids that do not settle well, the chemical action with the fines is such that the flocculant sticks to the solids and doesn't migrate with any resulting solutions.

MIBC is used as a frother in the flotation process, the doses there are very minor and the nature of this light alcohol is that it evaporates after a short period of time. Again the doses are so minor that they cannot be detected in the solution streams after flotation process.

Xanthate (PAX – Potassium Amyl Xanthate) is a collector for sulfide minerals, the purpose of this chemical is to attach to the sulfides in the ore and make the sulfide hydrophobic – and makes the sulfides “float” in the circuits. Xanthates generally attach to the sulfides and remain with the sulfides in the concentrates that are shipped offsite. Any residual in solution would be very dilute and non-detectable in the tailings streams.

Rick

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