

# ACS March 2009 Regular Meeting

March 19<sup>th</sup>, 2009

7:00 pm

HP 1006 (Health Professions building)

University of Southern Indiana

**Speaker:** Dr. Bill Hollar, Principal Engineer  
SABIC Innovative Plastics

**Title:** A Process History of LEXAN\*  
Polycarbonate Resin

**Dinner:** 5:30 pm at Los Bravos Mexican Restaurant  
4630 W Lloyd Express Way  
Evansville, IN 47701

***RSVP for dinner by March 18<sup>th</sup> to Derek Lake***  
**[Derek.Lake@sabic-ip.com](mailto:Derek.Lake@sabic-ip.com)**

## **Abstract**

Lexan aromatic polycarbonate (PC) based on bisphenol A (BPA) was originally invented in the 1950's. Its unique physical properties include transparency, extreme toughness and elevated temperature property retention. These attractive properties have resulted in market growth to greater than 3 million metric tons/year globally. Polycarbonate applications are widespread and include automotive, media, glazing, lighting and electronic equipment along with a myriad of consumer applications. Chances are excellent that you own several items made of polycarbonate.

This presentation will focus on the history and evolution of the Lexan polycarbonate manufacturing process and its tie to product performance and applications. Originally based on interfacial phosgenation processes, polycarbonate is also produced by melt transesterification processes. The key process features and a comparison of the two processes will be discussed.

Finally, as the market for polycarbonate matures, SABIC Innovative Plastics has increased its focus on producing novel Lexan polycarbonate copolymers with enhanced properties for demanding product applications. This has resulted in new process challenges and breakthroughs for commercial production. An example of a Lexan polycarbonate co-polymer process will be reviewed.