

Review Form2

Book Name:	Science and Technology - Recent Updates and Future Prospects
Manuscript Number:	Ms_BPR_1855
Title of the Manuscript:	Amoco CD Commercial Polypropylene Catalyst Tailor-Made for the Amoco-Chisso Gas Phase Process. Organotitanium Complex Coordinated on MgCl2
Type of the Article	Book chapter

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Please write few sentences regarding the importance this manuscript for scientific community. Why do you like (or dislike) this manuscript? Minimum 3-4 sentences may be required for this part.	This manuscript is important to the scientific community because it provides a comprehensive study on the development and optimization of a MgCl ₂ -supported polypropylene catalyst specifically designed for the Amoco-Chisso gas phase process. It offers valuable insights into the factors influencing catalyst particle morphology, size distribution, and activation, which are crucial for enhancing catalyst performance and polymer product properties. I appreciate the manuscript's thorough approach and detailed experimental procedures, which contribute significantly to the understanding and advancement of polyolefin catalysis. However, the density of information and complexity of some sections could be streamlined for better accessibility and readability.	
Is the title of the article suitable? (If not please suggest an alternative title)	The current title of the manuscript, "MgCl ₂ -Supported Polypropylene Catalyst with Tailored Particle Size for the Amoco-Chisso Gas Phase Process," is informative and accurately reflects the content of the study. However, it can be made more concise and engaging. Here is a suggested alternative title: "Tailoring MgCl ₂ -Supported Polypropylene Catalyst for Enhanced Performance in the Amoco-Chisso Gas Phase Process"	
Is the abstract of the article comprehensive? Do you suggest addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract of the article is comprehensive, covering the essential aspects of the study, including the catalyst's development, preparation method, performance, and factors influencing particle size and shape. However, some improvements can be made for clarity and conciseness. Here are my suggestions: "A MgCl ₂ -supported catalyst with controlled particle size was developed specifically for the Amoco-Chisso gas phase process. Complete control of the final catalyst's morphology and particle size is achieved through optimizing parameters such as precipitation temperature, THF/Mg mole ratio, aging conditions, chemical composition, stirring rate, and the choice of Mg compounds and electron donors. The resulting Amoco CD catalyst, based on anhydrous magnesium chloride and titanium compounds activated with triethylaluminium, exhibits excellent particle size distribution, high bulk density, good fluidity, and high activity. Both lab and pilot scale preparation methods are detailed, and polymerization tests in bench and pilot scale reactors demonstrate the catalyst's effectiveness."	
Are subsections and structure of the manuscript appropriate?	Suggestions for Improvement: Introduction: The introduction should clearly define the problem, state the objectives, and highlight the significance of the study. Consider breaking down the introduction into smaller paragraphs with subheadings such as "Background," "Objectives," and "Significance."	

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	Experimental: This section is well-detailed but could benefit from further subdivision for clarity. Possible subheadings include: Materials and Methods Catalyst Preparation Characterization Techniques Polymerization Testing Each subheading should contain a concise description of the procedures and methods used. Results and Discussion: This section could be subdivided to separately address different aspects of the results. Suggested subheadings: Catalyst Morphology and Particle Size Chemical Composition Analysis Polymerization Performance Comparison with Existing Catalysts Clear subheadings will help readers navigate the results and understand the discussion more easily. Conclusions: The conclusions should summarize the key findings and their implications. If not already included, a brief mention of future research directions or potential applications could add value. References: Ensure all references are formatted correctly and are relevant to the content. Grouping them in a consistent and standard format (e.g., APA, MLA, or journal-specific format) is crucial.	
Please write few sentences regarding the scientific correctness of this manuscript. Why do think that this manuscript is scientifically robust and technically sound?Minimum 3-4 sentences may be required for this part.	This manuscript is scientifically robust and technically sound due to its comprehensive approach to developing and characterizing a MgCl₂-supported polypropylene catalyst specifically tailored for the Amoco-Chisso gas phase process. The detailed experimental procedures, including the control of key parameters such as precipitation temperature and THF/Mg mole ratio, ensure reproducibility and reliability of the results. The extensive characterization and polymerization testing validate the catalyst's performance, demonstrating significant improvements in particle size distribution, bulk density, and activity. Moreover, the study's methodology and findings are well-supported by relevant literature, highlighting its contribution to advancing catalyst technology in polyolefin production.	
Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. :	The references provided in the manuscript are generally relevant to the topic, covering various aspects of polypropylene catalysts and their development. However, many of the references date back to the late 20th and early 21st centuries. To ensure the manuscript is up-to-date and reflects the latest advancements in the field, more recent references should be included. Arzoumanidis G, Karayannis N, Khelghatian M, Lee S (1992). "Commercial polypropylene catalysts." Catal. Today 13:59-71. Arzoumanidis G, Karayannis N (1993). "Fine-tuning polypropylene." Chem Tech 23:43-48. Arzoumanidis G (2014). "Novel Ti-Aryl complexes as internal or external modifiers, improving performance of MgCl₂ supported polypropylene catalysts." In: SPE polyolefins conference, Houston, TX. Hadian N, Hakim S, Nokoomanesh-Haghighi M, Bahri-Laleh N (2014). "Storage time effect on dynamic structure of MgCl₂·nEtOH adducts in heterogeneous Ziegler-Natta catalysts." Polyolefins J. 1:33-41.	

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	Arzoumanidis G, Karayannis N, Khelghatian H, Lee S (1989 Dec 9). "Olefin polymerization catalyst," US Patent 4,866,022; (1991 Jan 29) US Patent 4,988,656; (1991 May 7) US Patent 5,013,702. Corbin G, Lee K (1993). "Paper O-Amoco impact copolymer." In: DeWitt petrochemical review. Houston, TX. Ineos Technologies. Website. Cohen S, Arzoumanidis G, Karayannis N, Khelghatian H, Lee S (1990 Aug 7). "Morphology-controlled olefin polymerization catalyst," US Patent 4,946,816. Arzoumanidis G, Dredzdon M, Lee S (1992 Jun 23). "Olefin polymerization and copolymerization catalyst," US Patent 5,124,297.	
Minor REVISION comments Is language/English quality of the article suitable for scholarly communications?	English is not that much appropriate, manuscript have lots of grammatical and typographical errors.	
Optional/General comments		

PART 2:

	Reviewer's comment	Author's comment(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	

Reviewer Details:

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