

Review of: "Investigation of the properties of the composition obtained based on mixtures of polyvinyl chloride"

Reghunadhan Nair

Potential competing interests: No potential competing interests to declare.

REVIEW COMMENTS ON "INVESTIGATION OF THE PROPERTIES OF THE COMPOSITION OBTAINED BASED ON MIXTURES OF POLYVINYL CHLORIDE

BY KEREM SHIXALIYEV

RECOMMENDATIONS FOR IMPROVEMENT OF THE QUALITY OF THE PAPER

Title of paper is incomplete. Modify it as INVESTIGATIONS ON THE PROPERTIES OF THE COMPOSITION
 OBTAINED BASED ON MIXTURES OF POLYVINYL CHLORIDE with ethylene-propylene –diene(?) terpolymers

(REVIEWER presumes that the other component is a diene, if so rubber's specifications like mol wt, composition, particularly, the unsaturation- content etc are very important factors having a decisive role in the vulcanization of their mixture with PVC and the reactions between the two leading to crosslinking)

- 1. All abbreviations are to be expanded, when they are referred to for the first time
- 2. Abstract should be abstract only. No experimental details need be given In abstract
- 3. ethylene-propylene elastomers (SKEPT-40) with functional group....... what is the functional group and its concentration?
- 4. English usage is confuzsing in many places. E.g in abstract "As shown, among the FQP, the industrial scale production of PVC and the low cost of its use in the purchase of rubber mixtures based on Synthetic rubber ethylene propylene terpolymer (SREPT) have been developed." What does it mean?
- 5. Are (SKEPT-40) and SREPT the same?
- 6. See the sentence "In this regard, new composition mixtures were obtained by replacing the main polymers in rubber mixtures with 5÷30 mass parts of PVC based on SREPT" Oh my god, what does the author want to convey here?

 Make small sentences which may make some sense
- 7. Abstract "The physical and mechanical properties of their technological and vulcanizates were studied." Please clarify
- 8. The decrease in the sol fraction of the vulcanizate can be explained by the low swelling of PVC in the above solvents". Confusing statement

May be it can be replaced by The decrease in the sol fraction of the vulcanizate is in league with the low swelling of PVC in the above solvents



1. Abstract does not refer to the trend in machanical properties of the co-vulcanizates, neither the rheology

The above are my comments on the abstract part alone. Throughout the manuscript this kind of errors are seen. A rectification by the reviewer will amount to rewriting the whole paper. Author should revise the paper thoroughly.

RESULT PART should begin at

An IR spectrum study of the kept retexture after extraction showed the following:

1. 860, 1210, 1250, 1620, 1710, 3200-3600 cm-1 absorption fields are,,,,,,,,,,,,,,,,,,

SREPT absorption **area** indicates the loss of (including) end groups in SREPT...... what is the nature of the functional groups?

Area or peak?

FLOW CHARACTERISTICS

Plasticisers names are wrongly spelt

"the formation of the absorption area PEAK at 860 cm-1, and an increase in the intensity of absorption of the peak the strengthening of the area at 3030 cm-1 indicate the formation of a connection bond between PVC and SREPT."

In reviewers opinion, the mechanism of linkage between the two micromolecular species could be a kind of PVC-mediated hydrochlorination and or alkyl chlorination of the unsaturated groups in rubber with formation of a C-C bond between PVC and the unsaturated rubber as below:

LIKELY SCHEME FOR ALKYL CHLORINATION OF RUBBER BY PVC



Table 1 is too big. Some of the data fromtable1 can be represented by graphs

OVERALL

Rating of paper 6/10

My view ,not worth accepting for publication in the present form

See my comment aboveREVIEW COMMENTS ON "INVESTIGATION OF THE PROPERTIES OF THE COMPOSITION OBTAINED BASED ON MIXTURES OF POLYVINYL CHLORIDE

BY KEREM SHIXALIYEV

RECOMMENDATIONS FOR IMPROVEMENT OF THE QUALITY OF THE PAPER

Title of paper is incomplete. Modify it as INVESTIGATIONS ON THE PROPERTIES OF THE COMPOSITION
 OBTAINED BASED ON MIXTURES OF POLYVINYL CHLORIDE with ethylene-propylene –diene(?) terpolymers

(REVIEWER presumes that the other component is a diene, if so rubber's specifications like mol wt, composition, particularly, the unsaturation- content etc are very important factors having a decisive role in the vulcanization of their mixture with PVC and the reactions between the two leading to crosslinking)

- 1. All abbreviations are to be expanded, when they are referred to for the first time
- 2. Abstract should be abstract only. No experimental details need be given In abstract
- 3. ethylene-propylene elastomers (SKEPT-40) with functional group....... what is the functional group and its concentration?
- 4. English usage is confuzsing in many places. E.g in abstract "As shown, among the FQP, the industrial scale production of PVC and the low cost of its use in the purchase of rubber mixtures based on Synthetic rubber ethylene propylene terpolymer (SREPT) have been developed." What does it mean?
- 5. Are (SKEPT-40) and SREPT the same?
- 6. See the sentence "In this regard, new composition mixtures were obtained by replacing the main polymers in rubber mixtures with 5÷30 mass parts of PVC based on SREPT" Oh my god, what does the author want to convey here?
 Make small sentences which may make some sense
- 7. Abstract "The physical and mechanical properties of their technological and vulcanizates were studied." Please clarify
- 8. The decrease in the sol fraction of the vulcanizate can be explained by the low swelling of PVC in the above solvents". Confusing statement

May be it can be replaced by The decrease in the sol fraction of the vulcanizate is in league with the low swelling of PVC in the above solvents

1. Abstract does not refer to the trend in machanical properties of the co-vulcanizates, neither the rheology



The above are my comments on the abstract part alone. Throughout the manuscript this kind of errors are seen. A rectification by the reviewer will amount to rewriting the whole paper. Author should revise the paper thoroughly.

RESULT PART should begin at

An IR spectrum study of the kept retexture after extraction showed the following:

SREPT absorption **area** indicates the loss of (including) end groups in SREPT...... what is the nature of the functional groups?

Area or peak?

FLOW CHARACTERISTICS

Plasticisers names are wrongly spelt

"the formation of the absorption area PEAK at 860 cm-1, and an increase in the intensity of absorption of the peak the strengthening of the area at 3030 cm-1 indicate the formation of a connection bond between PVC and SREPT."

In reviewers opinion, the mechanism of linkage between the two micromolecular species could be a kind of PVC-mediated hydrochlorination and or alkyl chlorination of the unsaturated groups in rubber with formation of a C-C bond between PVC and the unsaturated rubber as below:

LIKELY SCHEME FOR ALKYL CHLORINATION OF RUBBER BY PVC

Table 1 is too big. Some of the data fromtable1 can be represented by graphs



OVERALL

Rating of paper 6/10

My view ,not worth accepting for publication in the present form

See my comment aboveREVIEW COMMENTS ON "INVESTIGATION OF THE PROPERTIES OF THE COMPOSITION OBTAINED BASED ON MIXTURES OF POLYVINYL CHLORIDE

BY KEREM SHIXALIYEV

RECOMMENDATIONS FOR IMPROVEMENT OF THE QUALITY OF THE PAPER

Title of paper is incomplete. Modify it as INVESTIGATIONS ON THE PROPERTIES OF THE COMPOSITION
 OBTAINED BASED ON MIXTURES OF POLYVINYL CHLORIDE with ethylene-propylene –diene(?) terpolymers

(REVIEWER presumes that the other component is a diene, if so rubber's specifications like mol wt, composition, particularly, the unsaturation- content etc are very important factors having a decisive role in the vulcanization of their mixture with PVC and the reactions between the two leading to crosslinking)

- 1. All abbreviations are to be expanded, when they are referred to for the first time
- 2. Abstract should be abstract only. No experimental details need be given In abstract
- 3. ethylene-propylene elastomers (SKEPT-40) with functional group...... what is the functional group and its concentration?
- 4. English usage is confuzsing in many places. E.g in abstract "As shown, among the FQP, the industrial scale production of PVC and the low cost of its use in the purchase of rubber mixtures based on Synthetic rubber ethylene propylene terpolymer (SREPT) have been developed." What does it mean?
- 5. Are (SKEPT-40) and SREPT the same?
- 6. See the sentence "In this regard, new composition mixtures were obtained by replacing the main polymers in rubber mixtures with 5÷30 mass parts of PVC based on SREPT" Oh my god, what does the author want to convey here?
 Make small sentences which may make some sense
- 7. Abstract "The physical and mechanical properties of their technological and vulcanizates were studied." Please clarify
- 8. The decrease in the sol fraction of the vulcanizate can be explained by the low swelling of PVC in the above solvents". Confusing statement

May be it can be replaced by The decrease in the sol fraction of the vulcanizate is in league with the low swelling of PVC in the above solvents

1. Abstract does not refer to the trend in machanical properties of the co-vulcanizates, neither the rheology

The above are my comments on the abstract part alone. Throughout the manuscript this kind of errors are seen. A rectification by the reviewer will amount to rewriting the whole paper. Author should revise the paper thoroughly.



RESULT PART should begin at

An IR spectrum study of the kept retexture after extraction showed the following:

1. 860, 1210, 1250, 1620, 1710, 3200-3600 cm-1 absorption fields are,,,,,,,,,,,,,,,,,,

SREPT absorption **area** indicates the loss of (including) end groups in SREPT...... what is the nature of the functional groups?

Area or peak?

FLOW CHARACTERISTICS

Plasticisers names are wrongly spelt

"the formation of the absorption area PEAK at 860 cm-1, and an increase in the intensity of absorption of the peak the strengthening of the area at 3030 cm-1 indicate the formation of a connection bond between PVC and SREPT."

In reviewers opinion, the mechanism of linkage between the two micromolecular species could be a kind of PVC-mediated hydrochlorination and or alkyl chlorination of the unsaturated groups in rubber with formation of a C-C bond between PVC and the unsaturated rubber as below:

LIKELY SCHEME FOR ALKYL CHLORINATION OF RUBBER BY PVC

Table 1 is too big. Some of the data fromtable1 can be represented by graphs

OVERALL



Rating of paper 6/10

My view ,not worth accepting for publication in the present form

See my comment above