

ผลกระทบของสารช่วยกระจายตัวต่อสารมลพิษในไอเสียของเครื่องยนต์แก๊สoline



นายบรรจง มากซุง

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต

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บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย
ปีการศึกษา 2539
จุฬาลงกรณ์มหาวิทยาลัย

ISBN 974-636-664-5

ลิขสิทธิ์ของบัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย

I97142574

**EFFECT OF DISPERSANT ON POLLUTANTS IN EXHAUST
EMISSION FROM GASOLINE ENGINE**



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**A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science**

Multidisciplinary of Petrochemistry and Polymer

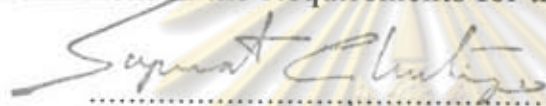
Graduate School Chulalongkorn University

Academic Year 1996

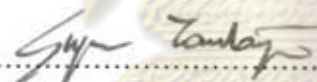
ISBN 974-636-664-5


Thesis Title EFFECT OF DISPERSANT ON POLLUTANTS IN
 EXHAUST EMISSION FROM GASOLINE ENGINE
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พิมพ์ต้นฉบับบทคัดย่อวิทยานิพนธ์ภายในกรอบสี่เหลี่ยมนี้เพียงแผ่นเดียว

บรรจก มากชุง : ผลกระทบของสารช่วยกระจายตัวต่อสารมลพิษในไอเสียของเครื่องยนต์แกโซลีน
(THE EFFECT OF DISPERSANT ON POLLUTANTS IN EXHAUST EMISSION FROM
GASOLINE ENGINE)

อาจารย์ที่ปรึกษา : รศ. ดร. โสภณ เริงสำราญ, 110 หน้า. ISBN 974-636-664-5

ในการศึกษาผลกระทบของสภาวะเครื่องยนต์และความเข้มข้นของสารช่วยกระจายตัวในน้ำมันแกโซลีน
พื้นฐานต่อสารมลพิษในไอเสียเครื่องยนต์แกโซลีน โดยใช้เครื่องยนต์ของโตโยต้า ขนาด 1500 ซีซีทำการวัดปริมาณ
คาร์บอนมอนอกไซด์, ไฮโดรคาร์บอน อัลดีไฮด์และคีโตน จากไอเสียของเครื่องยนต์ พบว่าสภาวะที่เครื่องยนต์มี
ความเร็วรอบต่ำมีปริมาณไฮโดรคาร์บอน และอัลดีไฮด์ที่มีโมเลกุลขนาดใหญ่สูง แต่ถ้าความเร็วรอบสูงมีปริมาณ
คาร์บอนมอนอกไซด์ และอัลดีไฮด์ที่มีโมเลกุลขนาดเล็กสูง สำหรับผลกระทบของความเข้มข้นของสารช่วยกระจายตัว
ต่อสารมลพิษในไอเสียของเครื่องยนต์พบว่าเมื่อความเข้มข้นของสารช่วยกระจายตัวเพิ่มขึ้น จาก 300 ถึง 500 ppm
ปริมาณของ สารมลพิษลดลง แต่ถ้ามีความเข้มข้นมากกว่า 500 ppm มีปริมาณสารมลพิษสูงขึ้น ที่ความเข้มข้น 500
ppm จะมีปริมาณสารมลพิษต่ำสุด ดังนั้นที่ความเข้มข้นนี้จึงเหมาะที่จะใช้เติมลงในน้ำมันแกโซลีนพื้นฐาน

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ปีการศึกษา 2539.....

ลายมือชื่อนิติต .....

ลายมือชื่ออาจารย์ที่ปรึกษา .....

ลายมือชื่ออาจารย์ที่ปรึกษาร่วม

C785027 : MAJOR PETROCHEMISTRY
KEY WORD: GASOLINE ENGINE / EXHAUST EMISSION / POLLUTANTS /
DISPERSANT
BANJONG MARKSOONG : THE EFFECT OF DISPERSANT ON
POLLUTANTS IN EXHAUST EMISSION IN GASOLINE ENGINE.
THESIS ADVISOR : ASSOC.PROF. SOPHON REONGSUMRAN, Ph.D.
110 pp. ISBN 974-636-664-5

The effect of engine conditions and concentration of dispersant in gasoline fuel on pollutants in exhaust emission was studied. The gasoline base and blends were tested in a 1500 cc TOYOTA gasoline engine, and the carbon monoxide, hydrocarbons, aldehydes and ketones in exhaust emissions were measured. The low engine speed was found to result in higher hydrocarbons and heavy molecular weight aldehydes and ketones. Increasing engine speed was found to lead to higher carbon monoxide concentrations and light molecular weight aldehydes. The effect of concentration of dispersant in gasoline fuel on pollutants has found that decreasing 300 ppm to 500 ppm, after it has increased with increasing concentration of dispersant. At 500 ppm corresponded to lowest pollutant productions in exhaust emission, thus it is a suitable blend with gasoline base.



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ลายมือชื่อนิสิต.....

ลายมือชื่ออาจารย์ที่ปรึกษา.....

ลายมือชื่ออาจารย์ที่ปรึกษาร่วม.....

ACKNOWLEDGEMENTS

The author would like to express his sincere thanks to his advisor, Associate Professor Dr. Sophon Roengsumran for his encouraging guidance, supervision and helpful suggestions throughout this research. He is grateful to Assistant Professor Dr. Amorn Petsom for his valuable criticism and helpfulness. In addition, he is also grateful to Associate Professor Dr. Supawan Tantayanon, Assistant Professor Prapaipit chamsuksai Ternai. and Dr. Somchai Pengprecha , serving as chairman and members of his thesis committee, respectively, for their valuable comments.

Special thanks are due to the Petroleum Authority of Thailand, for their help in permitting use of some equipment and for their support during this research.

Finally, the author would like to express his greatest appreciation to his family for their support throughout his entire education.



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

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ABBREVIATIONS

NO _x	=	Oxides of nitrogen
HC	=	Total hydrocarbons
rpm	=	Revolution per minute
HPLC	=	High performance liquid chromatograph
°BTDC	=	Bottom top death center
ppm	=	Part per million
TDC	=	Top death center
BDC	=	Bottom death center
TBA	=	t-Butyl alcohol
IPA	=	i-Propyl alcohol
IBA	=	i- Butyl alcohol
AFR	=	Air-fuel ratio



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