

1.

·
3,4
·
Salvin 1974
가
· ,
가
·
Burr Lannefeld
·
3~6
·
·
가
·
1975 Agnihotri 가 (coning oil)
·
1978 Grant , ,
· ,

가

.

Grant

66

.

가 가

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가 가

66

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. Grant

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가

.

Grant

.

3

Burr

Lannefeld

Grant

.

.

. Ciba-Geigy

. Ciba-Geigy

butylated hydroxytoluene

.

.

stilbene quinone

.

BHT가

. BHT가

BHT가 가

. BHT

.

.

가 . BHT가

가

.

Ciba-Geigy

.

가

BHT가 .

.

1980 Hemmple ,

.

가 .

.

가 , ,

.

.

.

가 .

1 Niemann ,

가

Ciba-Geigy

가 Niemann

가

Niemann

Hemmpel . Niemann

oleic acid amide

가

가

1981

McEwan

Murdock

sulfanilic acid

N-1-

naphthylethylenediamine dihydro-chloride

Saltzman

Grant

McEwan

Murdock

가

가

· McEwan

Murdock 가 가

· 가

가

·

1981 10 , Hemmpel .

“

· ”

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· 가

· 가

·

1982 4 Wagner가

· Wagner “

, 가 , 가 가

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가

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· ”

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· ”

Wagner chromatography UV,
Visible, IR, mass spectroscopy .

3

?

1

가 Wagner가

nitrophenol

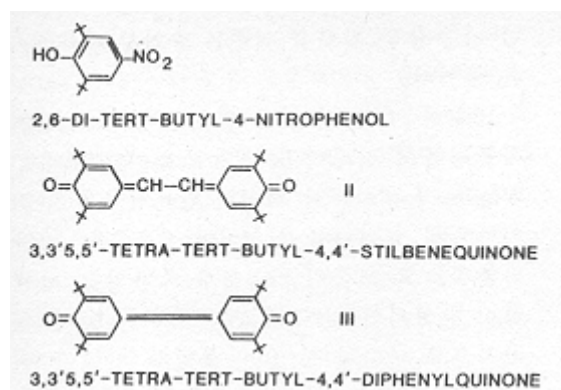
가

quinone

2,6-di-tert-butyl phenol

BHT

가



< 1> Wagner가

2.

8 가 2

.

.

가

.

.

oleic acid amide

,

,

가

nitrosophenol

,

가

,

.

Ciba-Geigy

BHT

.

Wagner

.

66

가

,

. 가

PH

Du-Pont

.

Wagner

.

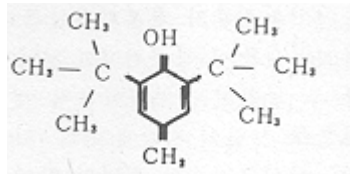
가

,

,

가 . 가 Ciba-Geigy

BHT



: 70

: 147 /20mmHg, 265 /760mmHg

< 2> BHT(4-methyl-2,6-di-tert-butylphenol, 2,6-di-tert-butyl-p-cresol,
butylated hydroxy-toluene)

BHT(2)

가 . BHT 가

가 . BHT

BHT

가 .

BHT가

. (

) . , free radical . BHT

< 1> BHT

(Potassium Ferricyanide)	3 (Tertiary Butyl Hydroperoxide)
()	(BHT)
(Potassium Nitrosodisulfonate)	
(Benzoyl Peroxide)	

1 가 . BHT 가

. 4

. 가

. 가

BHT가 . 가

가 .

BHT 2 가 .

, Brock hoven BHT

quinonitrole . Brunton

BHT

quinonitrole

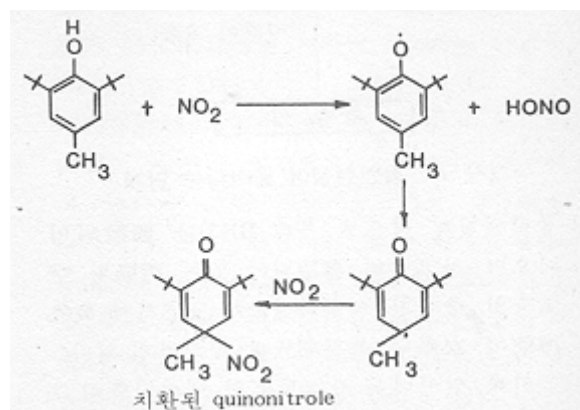
. 3 . BHT OH

가 BHT가

free radical .

free radical

(quinonitrole) .



< 3> BHT

97

(Stilbene quinine)

Ciba-Geigy

Cook Wood

worth가

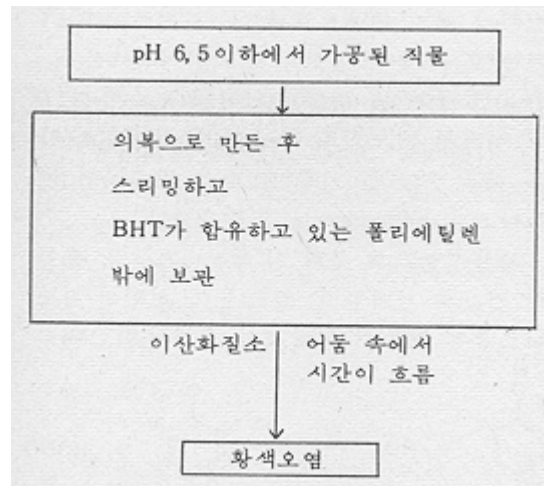
2,4,6-tri-tert-butylphenol

가 (4).

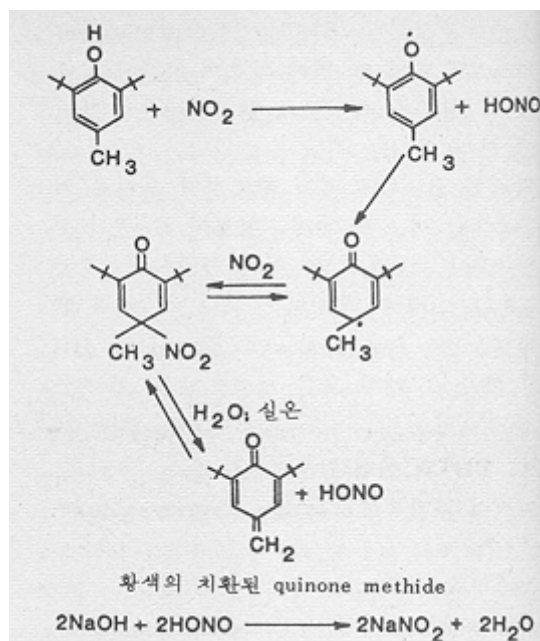
가

BHT

BHT가



< 4>



< 5> BHT quinine methide

5

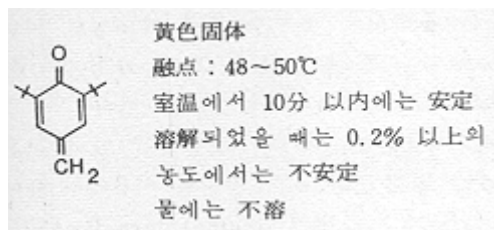
가 BHT

가 p-quinone methide 가
 quinone methide
 가
 3,5-di-tert-butyl-p-quinone methide가

p-quinone methide BHT
 가
 1978
 1981 1982 Oughton
 quinone methide가 66
 가
 ppm p-quinone methide

3,5-di-tert-butyl-p-quinone methide(6)
 10

0.2%



< 6> 3,5-di-tert-butyl-p-quinone methide

quinone methide quinone methide
 가 3,5-di-tert-butyl-p-quinone

methide가 가 quinone methide .

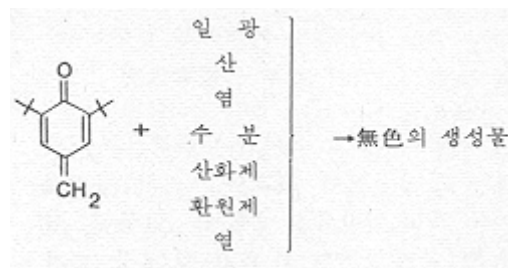
quinone methide

. free radical

가 BHT .

(7).

가 .



< 7> quinone methide

quinone methide 0.2% .

(8).

2 2 .

가

가 가 .

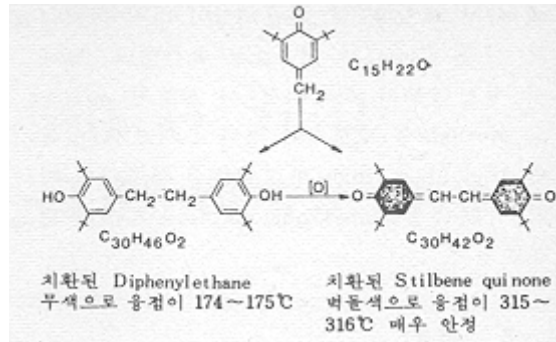
.

diphenylethane 가

Stilbene quinone .

가 가

. Quinone methide 가 .



< 8> 3,5-di-tert-butyl-p-quinone methide

quinone methide

free radical

BHT

Grant가

quinone methide

quinone methide가

Stilbene quinone

3.

가

4가

BHT

BHT

3,5-di-tert-butyl-p-quinone methide

가

가

가

가

가

가

가

BHT가

Southeastern Plastics Corp

Ark Plastics

가

가

가

가

PH 5.5

가