

## Chemistry Report for Case # P-21-0095

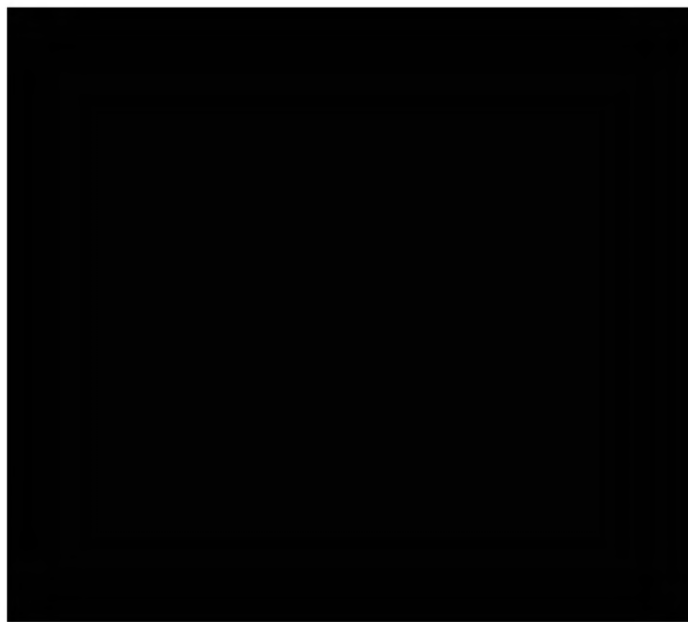
### General

<b>Submitter:</b> [REDACTED]	
<b>Contact:</b> [REDACTED]	<b>Contact Telephone No.:</b> [REDACTED]
TS No.: CD0121	
<b>Chemist:</b> Butler, T.	<b>Contractor Support:</b>
<b>PV Init (kg/yr):</b> [REDACTED]	<b>PV Max (kg/yr):</b> [REDACTED]
<b>Binding Option:</b> <input type="checkbox"/>	<b>Exposure Based Review:</b> [REDACTED]
<b>Manufacture:</b> <input checked="" type="checkbox"/>	<b>Import:</b> <input checked="" type="checkbox"/>

<b>CAS Number:</b> [REDACTED]
<b>Chemical Name:</b> [REDACTED]
<b>Trade Name:</b> Durasyn 133 Polyalphaolefin
<b>IES Order:</b> 443810
<b>Generic Name:</b> Alkene homopolymer hydrogenated

### Chemical Structure

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## Physical Chemical Properties

<b>Molecular Formula:</b> [REDACTED]	<b>Molecular Weight:</b> [REDACTED]
<b>% &lt; 500:</b>	<b>% &lt; 1000:</b>
<b>MP:-45 - -39</b>	<b>MP Estimate:</b>
<b>BP:-45 - -39</b>	<b>BP Pressure:0.1</b>
<b>BP Estimate:</b> [REDACTED]	
<b>VP (Torr):</b>	<b>VP Estimate (Torr):&lt;0.000001</b>
<b>Water Solubility (g/L):</b>	<b>Water Soluble Estimate (g/L):&lt;0.000001</b>
<b>Log P:</b>	<b>Log P Estimate:</b>
<b>Physical State — Neat</b> [REDACTED]	<b>Physical State — Manuf</b> [REDACTED]

**Physical State — Processing:** Solution: 10-98% PMN material in lubricant formulation  
**Physical State — End Use:** Solution: 10-98% PMN material in lubricant formulation

## Additional Chemical Info

Composition: [REDACTED]

In case [REDACTED], the submitter said that the parent substance feedstock [REDACTED]

NAVIG MW = [REDACTED] with [REDACTED] % < 500 and [REDACTED] % < 1000 by GPC (PMN page 5). This NAVIG MW is too low to be credible for this chemical identity since the [REDACTED] has a calculated MW of [REDACTED] g/mol and the [REDACTED] has a calculated MW of [REDACTED] g/mol. The submitted GPC output shows a NAVIG MW = [REDACTED].

Submitted Properties: Pour Point = -45 to -39 °C; BP = [REDACTED] °C at 0.1 torr; VP = [REDACTED] torr at [REDACTED] °C; Flash Point = [REDACTED] °C; log Koc = 6.58 (Sub. Est.); Kinematic Viscosity = 12.98-13.52 cSt at 40 °C, 3.182-3.42 cSt at 100 °C. The IR, UV/Vis, 1H-NMR, and 13C-NMR spectra are included.

Continued on page 6 of this report: Continued from page 2 of this report:

NOMO5 Estimations:  
From BP of [REDACTED]  
From VP of [REDACTED]  
(The submitted VP of [REDACTED] °C is too high to be credible for this high MW substance.)

EPI Estimations for the [REDACTED] BP = [REDACTED] °C; VP = [REDACTED] torr; WS= 1.42E-12 g/L; logP = 14.02.

EPI Estimations for the [REDACTED] BP = [REDACTED] °C; VP = [REDACTED] torr; WS = 1.51E-19 g/L; logP = 20.82.

The estimated log P values are outside the estimation domain of EPISuite and therefore may be considered qualitative rather quantitative.

## Uses

Consumer Use? Yes

**Use:** Intended Use: Base oil for crankcase motor oil (58%), transmission oil (37%), and other industrial applications such as compressor and gear fluids (5%). The consumer use is as a carrier fluid for additives to motor oils and automatic transmission fluids.  
Synthetic Sequence: [REDACTED] to P-21-95.  
Analogues (same use): Analogue [REDACTED] is used as a [REDACTED]  
[REDACTED] Analogues [REDACTED]  
are used as [REDACTED]  
[REDACTED] Analogue [REDACTED] is used as a [REDACTED]  
[REDACTED] Analogues [REDACTED] is used as a [REDACTED]  
[REDACTED] are used as [REDACTED] Analogue [REDACTED]  
[REDACTED] are used as [REDACTED] Analogue [REDACTED]  
[REDACTED] is used as a [REDACTED] Analogue [REDACTED]  
[REDACTED] Analogue [REDACTED] is used as a [REDACTED]  
[REDACTED]

**Other Uses:** Analogues (other use): Analogue [REDACTED] is used as a [REDACTED]  
[REDACTED]  
[REDACTED]  
Analogues (same use and other use): Analogues [REDACTED]  
are used as [REDACTED]  
[REDACTED]  
Patents (other use): None.

## Reaction Description

[REDACTED]

## Pollution Prevention Analysis(P2 Analysis:)

### P2 Claim:

All manufacturing is completed in a closed system process, two waste streams are generated as a result of the manufacturing process: 1. waste water is deep well injected; 2. a waste stream or by-product from the manufacturing process is produced which is sold off to select customers for use as a fuel versus being disposed of.

## Analogs

Analogue:	

## Comments/Telephone Log

Artifact	Update/Upload Time