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St. Louis Research Department

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St. Louis Research Report No. P-1441

TENTATIVE PROCESS

FOR

THERMINOL FR-LO TEMP
(Formerly MCS 523)

JOB NO. 2-02-760.01-6610

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TABLE OF CONTENTS

	Page No.
INTRODUCTION	1
SYNOPSIS OF PROCESS	1
FLOW SHEET	1
BILL OF MATERIALS	1
PROCESS IN DETAIL	1
DISCUSSION	1, 2
MATERIAL SPECIFICATIONS	2
TOXICITY AND HAZARDS	2
STREAM AND ATMOSPHERIC POLLUTION	2

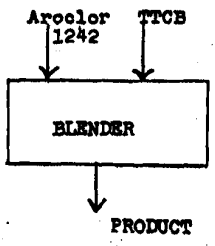
INTRODUCTION

Therminol FR-Lo Temp is a low viscosity mixture of Aroclor 1242 and tri-tetrachlorobenzene. It is to be used as a heat transfer fluid for the -20°F to 400°F bulk fluid range.

SYNOPSIS OF PROCESS

Therminol FR-Lo Temp is prepared by blending 50% by weight of Aroclor 1242 with 50% by weight of tri-tetrachlorobenzene mixture.

FLOW SHEET



BILL OF MATERIALS

Basis: 100 lbs. of product

Raw Material	Weight (lbs.)
Aroclor 1242	50.0
Tri-tetra Blend	50.0

PROCESS IN DETAIL

This process may be carried out in any suitable steel or glass-lined equipment.

50 lbs. of Aroclor 1242 and 50 lbs. of tri-tetrachlorobenzene mixture are charged to the blend tank and are agitated for about one hour at 70°F or higher.

DISCUSSION

The tri-tetra blend used as a raw material has a last crystal point of about 30°F. Therefore, if this material has

been stored outdoors in temperatures below 40°F, heating to 70°-100°F is advised before removing from shipping containers.

MATERIAL SPECIFICATIONS

A. Raw Materials

1. Aroclor 1242 - Material Code No. 81101 or 82612.
2. Tri-tetrachlorobenzene Blend - Hooker - Material Code KRUM - 58500.

B. Finished Product

Following are Tentative Specifications. These are based on a minimum amount of laboratory data, and should be reviewed after several plant batches are made.

TENTATIVE SPECIFICATIONS
Therminol FR-Lo Temp

Appearance	clear, colorless liquid
Density (lbs./cu.ft./25°C.)	89.2 - 90.5
Acid No. (Mg.KOH/g.)	0.05 max.
Moisture - ppm.	75 max.
* Viscosity at 70°F.-centipse.	8.0 - 9.0
Fire Point, °F.	None to boiling
Specific heat, Btu/lb.°F.	0.26 min. at 100°F.
Thermal conductivity Btu/hr.cu.ft.,°F./ft.	.062 min. at 100°F.
* Viscosity at 100°F. centp.	5.1 max.
* at 210°F. centp.	-

* Report viscosity in centipoise and SUS.

TOXICITY AND HAZARDS

Aroclor and tri-tetrachlorobenzene are irritating to the eyes and nasal passages and slightly irritating to the skin. Normal precautions should be taken.

STREAM AND ATMOSPHERIC POLLUTION

No waste is involved in the process.