

Prepolymer Systems Having FDA Approval

Urethane
Prepolymers

CROMPTON CORPORATION CHEMICAL PREPOLYMER SYSTEMS HAVING FDA APPROVAL

This Teletech outlines the criteria for selection of urethane components having FDA approval.

WET FOOD APPROVAL is obtained only when specific chemical compositional requirements are met.

Elastomers based on the following Vibrathane[®] prepolymers are acceptable for repeated contact with food under #177.2600 subpart F, Food Additives Regulations when cured with 1,4 Butanediol, Vibracure[®] A 120, Vibracure[®] A 125 or a mixture of these chain extenders. They can be used in continuous and repetitive contact with dry, aqueous and fatty foods.

PREPOLYMER:

ESTER	ETHER
Vibrathane [®] 6012	Vibrathane [®] 23.708
Vibrathane [®] 8007	Vibrathane [®] 23.710
Vibrathane [®] 8084*	
Vibrathane [®] 8094	
Vibrathane [®] 8095	

CURATIVES:

ESTER	ETHER
Vibracure [®] A 125	Vibracure [®] A 120
1,4 Butanediol	Vibracure [®] A 122
	1,4 Butanediol

*Vibrathane 8084 is a special made-to-order product.

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Some of the possible applications are in conveyor systems, chute liners, chopping blocks, inspection tables, tote boxes and coating applications.

If a formulator has a new application for meat or poultry, he is referred to the November 1993 "Accepted Meat & Poultry Equipment" publication (MPI-2, FSIS Directive 11220.1). This document outlines the requirements for assuring the chemical acceptability of the food contact components and materials of food processing equipment. Direct food contact components must be documented as to their compliance with the Federal Food, Drug and Cosmetic Act (FFDCA) by a written letter of guaranty. These guaranties must then be provided to the Equipment Branch as part of the documentation supporting a request for equipment acceptance by USDA.

The USDA, Food Safety and Inspection Service, monitors components backed by a letter of guaranty to ensure they are formulated in compliance with the appropriate regulations.

For **DRY FOOD APPROVAL** all urethane components must be listed in Section #177.1680 of the FDA register. In addition, the urethane from these components must be capable of passing Federal Test Method 6191, Number 141 for abrasion resistance.

With the exception of PPDI based prepolymers, all Crompton Corporation Adiprene and Vibrathane prepolymer components and Royalcast[®] 3101, 3105, 3109 Part A components are approved for dry food use. Urethane systems, however, are limited because many common curatives do not have approval. The table below lists the common curatives and classifies them according to whether they have approval or not.

CURATIVES

APPROVED	NOT APPROVED
1,4 Butanediol	MBCA
1,3 Butanediol	Vibracure [®] A 931
Trimethylolpropane (TMP)	TIPA
HQEE	Curene [®] 3005
Perstorp TP30LW	Curene [®] 155, 148
Vibracure [®] A 120	Caytur [®] 21
Vibracure [®] A 122	Caytur [®] 31
Vibracure [®] A 125	Ethacure [®] 300
Triethanolamine	Ethacure [®] 100
Royalcast [®] 3101 B-60	Royalcast [®] 3101 B
Methylenedianiline (MDA)	
Versalink 740M	
Vibracure [®] A 157	

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CATALYSTS

<u>APPROVED</u>	<u>NOT APPROVED</u>
N, N'Dimethyldodecylamine Dibutyltindilaureate (SUL-4)	DABCO

Approved systems are most conveniently formulated using MDI prepolymers cured with HQEE, 1,4 Butanediol and Vibracure A 120, Vibracure[®] A 122, Vibracure[®] A 125 or Vibracure A 157.

Additional information or specific recommendations can be obtained from Adiprene/Vibrathane Technical Service at 1-800-243-2650.