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*Filtration at its finest*

**To Whom It May Concern.**

**7/03/08**

**We hold in our office documentary evidence from Bayer Material Science confirming that the Bayer material which we sell under the house brand name of Seeflex .040 conforms to FDA regulation CFR 177.1680.**

**A copy of this FDA regulation follows.**

**The section in blue clearly states that this material (Seeflex) can safely be used in direct food contact.**

**Yours faithfully.**

**Forres L McPheat  
Managing Director.**

TITLE 21--FOOD AND DRUGS  
CHAPTER I--FOOD AND DRUG ADMINISTRATION  
DEPARTMENT OF HEALTH AND HUMAN SERVICES  
SUBCHAPTER B--FOOD FOR HUMAN CONSUMPTION (CONTINUED)

PART 177 -- INDIRECT FOOD ADDITIVES: POLYMERS

Subpart B--Substances for Use as Basic Components of Single and Repeated Use Food Contact Surfaces

Sec. 177.1680 Polyurethane resins.

**The polyurethane resins identified in paragraph (a) of this section may be safely used as the food-contact surface of articles intended for use in contact with bulk quantities of dry food of the type identified in 176.170(c) of this chapter, table 1, under Type VIII, in accordance with the following prescribed conditions:**

(a) For the purpose of this section, polyurethane resins are those produced when one or more of the isocyanates listed in paragraph (a)(1) of this section is made to react with one or more of the substances listed in paragraph (a)(2) of this section:

(1) Isocyanates:

Bis(isocyanatomethyl) benzene (CAS Reg. No. 25854-16-4).

Bis(isocyanatomethyl) cyclohexane (CAS Reg. No. 38661-72-2).

4,4'-Diisocyanato-3,3'-dimethylbiphenyl (bi-tolylene diisocyanate).

Diphenylmethane diisocyanate.

Hexamethylene diisocyanate.



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3-Isocyanatomethyl - 3,5,5 - trimethylcyclohexyl isocyanate.

4,4-Methylenebis(cyclohexyl isocyanate).

Toluene diisocyanate.

(2) List of substances:

Adipic acid.

1,4-Butanediol.

1,3-Butylene glycol.

1,4-Cyclohexane dimethanol (CAS Reg. No. 105-08-8).

2,2-Dimethyl-1,3-propanediol.

Ethylene glycol.

1,6-Hexanediol (CAS Reg. No. 629-11-8).[alpha]-Hydro-[omega]-hydroxypoly(oxy-1,4-butanediyl) (CAS Reg. No. 25190-06-1).

[alpha]-Hydro- omega -hydroxypoly (oxytetramethylene).

[alpha],[alpha]'-(Isopropylidenedi- p- phenylene)bis[ omega- hydroxypoly (oxypropylene)(3-4 moles)], average molecular weight 675.

Maleic anhydride.

Methyl oxirane polymer with oxirane (CAS Reg. No. 9003-11-6).

Methyl oxirane polymer with oxirane, ether with 1,2,3-propanetriol (CAS Reg. No. 9082-00-2).

[alpha],[alpha]'[alpha][Prime],[alpha][Prime]'-Neopentane tetrayltetrakis [ omega- hydroxypoly (oxypropylene) (1-2 moles)], average molecular weight 400.

Pentaerythritol-linseed oil alcoholysis product.

Phthalic anhydride.

Polybutylene glycol.

Polyethyleneadipate modified with ethanolamine with the molar ratio of the amine to the adipic acid less than 0.1 to 1.

Poly(oxycarbonylpentamethylene).

Polyoxypropylene ethers of 4,4'-isopropyl-idenediphenol (containing an average of 2-4 moles of propylene oxide).

Polypropylene glycol.

[alpha],[alpha]',[alpha][Prime]-1,2,3-Propanetriyltris [ omega- hydroxypoly



(oxypropylene) (15-18 moles)], average molecular weight 3,000.

Propylene glycol.

[alpha],[alpha]',[alpha][Prime]-[Propylidynetris (methylene)] tris [ omega- hydroxypoly (oxypropylene) (minimum 1.5 moles)], minimum molecular weight 400.

[alpha]-omega- hydroxypoly(oxyethylene) (5 moles), average molecular weight 425.

Trimethylol propane.

(b) Optional adjuvant substances employed in the production of the polyurethane resins or added thereto to impart desired technical or physical properties may include the following substances:

List of substances	Limitations
1-[(2-Aminoethyl)amino]2-propanol	As a curing agent.
1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	As a preservative.
Colorants used in accordance with 178.3297 of this chapter.	
Dibutyltin diacetate	As a catalyst.
Dibutyltin dichloride	Do.
Dibutyltin dilaurate	Do.
N,N-Dimethyldodecylamine	Do.
N-Dodecylmorpholine	Do.
a,a'-[Isopropylidenebis<em>p-phenyleneoxy(2-hydroxytrimethylene) >bis<em>omega-hydroxypoly-(oxyethylene) (136-170 moles)], average molecular weight 15,000	As a stabilizer.
4,4'-Methylenedianiline	As a curing agent.
1,1',1[Prime]-Nitrilotri-2-propanol	Do.
2,2'-(p-Phenylenedioxy) diethanol	Do.
Polyvinyl isobutyl ether	
Polyvinyl methyl ether	
Soyaalkyd resin	Conforming in composition with 175.300 of this chapter and containing litharge not to exceed that residual from its use as the reaction catalyst and creosol not to exceed that required as an antioxidant.
Tetrakis [methylene-(2,5-di-tert-butyl-4-hydroxyhydrocinnamate)]methane (CAS Reg. No. 6683-19-8)	Stabilizer.
N,N,N'N'-Tetrakis (2-hydroxypropyl)ethylenediamine	As a curing agent.
Triethanolamine	Do.
Trimethyleneglycol di (p-aminobenzoate) (CAS Reg. No. 57609-64-0)	As a curing agent.

(c) An appropriate sample of the finished resin in the form in which it contacts food,



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when subjected to ASTM method D968-81, "Standard Test Methods for Abrasion Resistance of Organic Coatings by the Falling Abrasive Tester," which is incorporated by reference (Copies may be obtained from the American Society for Testing Materials, 100 Barr Harbor Dr., West Conshohocken, Philadelphia, PA 19428-2959, or may be examined at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

[http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).  
) , using No. 50 Emery abrasive in lieu of Ottawa sand, shall exhibit an abrasion coefficient of not less than 20 liters per mil of film thickness.

[42 FR 14572, Mar. 15, 1977, as amended at 46 FR 57033, Nov. 20, 1981; 49 FR 10110, Mar. 19, 1984; 50 FR 51847, Dec. 20, 1985; 56 FR 15278, Apr. 16, 1991; 56 FR 42933, Aug. 30, 1991]