

P-D-680A  
 INTERIM AMENDMENT 3 (USAF)  
 13 July 1990  
 USED IN LIEU OF  
 AMENDMENT 2  
 1 March 1990

FEDERAL SPECIFICATION

DRY CLEANING AND DEGREASING SOLVENT

This interim amendment forms a part of Federal Specification P-D-680A, dated September 9, 1988, and is approved for use within the Department of the Air Force.

Page 1

1.1: Delete and substitute:

1.1 Scope. Dry cleaning and degreasing solvent consists of three types of petroleum distillates. The different types are referred to as 'Stoddard solvent', '140°F solvent', and '200°F solvent'. They are used for dry cleaning, spot and stain removing and for degreasing of machine parts in equipment maintenance.

1.2: Delete and substitute:

1.2 Classification. Dry cleaning and degreasing solvent shall be of the following types:

Type I	-	Regular (Stoddard solvent) (Military Symbol SD-1)
Type II	-	High flash point (Military Symbol SD-2)
Type III	-	Odorless with very high flash point (200°F min)

Add as new paragraph 1.2.1

1.2.1 NATO Classification

Type I	S-752
Type II	S-753

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1.3, line 1: Delete 'Federal specification part numbers' and substitute 'Part or identifying number (PIN)'.

1.3, line 3: Delete 'military part number' and substitute 'PIN'.

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2.2: Add the following after line 18:

D 445 - Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)

2.2: Add the following after line 26:

D 2879 - Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope.

2.2: Add the following:

Federal Environmental Protection Agency (EPA) Standards:

EPA 420.1      Colormetric Test for Total Phenol

(Application for copies should be addressed to the US EPA,  
Environmental Monitoring and Support Laboratory, 26 West Martin  
Luther King Dr., Cincinnati, OH 45268)

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2.3: Delete in its entirety.

3.1.1, line 1: Delete 'mater' and substitute 'matter'.

3.2, line 4: Delete 'type I or type II' and substitute 'type I, type II, or type III'.

Table I: Delete and substitute:

TABLE I. Dry Cleaning and Degreasing Solvent Properties.

CHARACTERISTIC	TYPE I	TYPE II	TYPE III
Flash point, °C, min	38.0	60.0	93.3
Distillation, °C			
Initial boiling pt., °C, min	149	177	225
50% pt., °C, min	report	report	235
50% pt., °C, max	--	--	290
Dry point, °C, max	208	211	315
Aniline point, °C, min	57	57	85
max	74	74	--
Vapor Pressure, mmHg @ 20°C, max	--	--	0.33

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Table 1 (cont'd): Delete and substitute:

TABLE I. Dry Cleaning and Degreasing Solvent Properties. (cont'd)

CHARACTERISTIC	TYPE I	TYPE II	TYPE III
Kauri-butanol value, min	29	29	25
max	45	45	--
Allowable Constituents, (%volume): <u>1/</u>			
(a) Solvent with olefinic or cyclo- olefinic unsaturation, max	5	5	0.8
(b) Aromatic compounds with eight or more carbon atoms, except ethylbenzene, max	8	8	0.8
(c) Total of ethylbenzene, toluene, and branched chain ketones, max	20	20	1
(d) Total of (a) + (b) + (c), max	20	20	1
Total chlorine content (ppm), max	500	500	100
Apparent specific gravity	.754 -.820	.754 -.820	.740 -.840
Viscosity @ 25°C, cSt, max	--	--	8.0
Total phenol content (ppm), max	--	--	0.5
Non-volatile residue (mg/100 mL), max	10	10	10
Color, min	25	25	30
Odor <u>2/</u>	Character- istic and non-residual	Character- istic and non-residual	odorless
Corrosion, copper, max <u>3/</u>	2A	2A	2A
Acidity	neutral	neutral	neutral
Doctor test	negative	negative	negative

1/ These maximum limits are as defined in Rule 102, South Coast Air Quality Management District regulations.

2/ Samples of type I and type II having satisfactory odor characteristics are to be used as reference standards.

3/ Test for three hours at 100°C.

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4.2: Add the following sentence:

'The contractor shall have the toxicological product formulations and associated information available for review by the contracting activity to evaluate the safety of the material for the proposed use through the submission of the Material Safety Data Sheet detailed in FED-STD-313 (See 6.7).'

4.4.2, line 3: Delete 'and acceptable quality level (AQL) shall be not more than 1.0 percent defective.' and substitute '. A lot shall be accepted when zero defects are found and rejected when one or more defects are found.'

Table II: Delete and substitute:

TABLE II. Quality conformance testing.

Characteristic	Test Method No. FED-STD-141	Test Method No. ASTM Method	Other Specs
Flash point			
Type I		D 56	
Type II		D 56	
Type III		D 93	
Distillation		D 86	
Kauri-Butanol Value		D 1133	
Allowable Constituents, % Volume	7356		
Apparent specific gravity		D 1298	
Viscosity		D 445	
Aniline point		D 611	
Color		D 156	
Odor		D 1296	
Copper corrosion		D 130	
Acidity		D 847	
Doctor test		D 235	
Vapor Pressure		D 2879	
Total Phenol Content			EPA 420.1

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4.5.2, line 2: Delete 'GLC mass spectrophotometer' and substitute 'gas chromatographic method or microcoulometric method which is accurate to  $\pm 100$  ppm'.

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4.6.1.4, line 2: Delete 'AQL shall be 1.0 percent defective.'

4.6.1.4, item 105: Delete 'MIL-STD-209' and substitute 'MIL-STD-290'.

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Add as new paragraph 6.1.3:

'6.1.3 Type III. Type III (odorless with very high flash point solvent) is intended to be used where confined atmospheric conditions require a cleaner that helps meet the federal government's directive for reduced hazardous materials.'

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Table III, line 6: Delete '6850-00-264-8012' and substitute '6850-00-285-8012'.

Table III, line 10: Delete '6850-00-295-8011' and substitute '6850-00-285-8011'.

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6.9: Add the following line:

'200°F solvent (type III)'

Preparing Activity:  
Air Force - 68

(Project 6850-F846)