

SMI, Inc.

12219 SW 131 Avenue
Miami, Florida 33186-6401 USA

Phone: (305) 971-7047
Fax: (305) 971-7048

Attn: Pierce Pillon
ITW Tech Spray
3350 Olsen Blvd
Suite 1400/1500
Amarillo, TX 79109

Date: 07-Nov-2016

SMI/REF: 1607-121

Product: **TECHSPRAY PWR4™ AVIATION DEGREASER CONCENTRATE (2851-20S)**
(received 04-Oct-2016)

Page 1 of 3

Dilution: As received

Airbus UK
ABR 9-0140 GENERAL PURPOSE CLEANING SOLVENT
(Amendment Notice Issue 5 [11 Nov 09] to ABR 9-0140 at Issue 6 [Feb 2000])

Qualification Requirements:

4.1 Qualification Requirements for Type 1 Solvents

4.1.1	Appearance	<u>Conforms</u>
4.1.2	Odour	<u>Conforms</u>
4.1.3	Flash Point	<u>Conforms</u>
4.1.4	Residue on Evaporation	<u>Conforms</u>
4.1.5	Storage Stability	<u>Not performed</u>
4.1.6	Cleaning Capabilities	<u>To be certified by Mfr.</u>
4.1.7	Freedom from Corrosive Action	<u>Conforms</u>

Respectfully submitted,



Patricia D. Viani
SMI Inc.

Client: ITW TechSpray

Date: 07-Nov-2016

Product: **TECHSPRAY PWR4™ AVIATION DEGREASER CONCENTRATE (2851-20S)**

Dilution: As received

SMI/REF: 1607-121

ABR 9-0140 Type I Issue 6

4.1 Qualification Requirements for type 1 solvents

4.1.1 Appearance: The cleaning solvent shall be a single phase liquid, consisting of a single solvent or completely miscible mixture of solvents free from sediments and suspended solids.

Result Conforms

4.1.2 Odour: The cleaning solvent shall not produce unpleasant odours either during or after application.

Result Conforms

4.1.3 Flash Point: The solvent shall have no flashpoint or when determined by the Abel apparatus, using the method described in Institute of Petroleum Specification I.P. 33/59 *(note: Method ASTM D93 PMCC substituted for Abel Apparatus Method IP 33/59). The flash point shall be greater than 32.2°C/90°F.

ASTM D93: No flash point observed to 33°C (91°F)

Result Conforms

4.1.4 Residue on Evaporation: The residue on evaporation shall be expressed as the percentage weight remaining after 50 ml of the solvent have been evaporated to dryness on a water bath and then heated at $110 \pm 2^\circ\text{C}$ in an oven to constant weight. The weight of the residue shall be determined immediately after cooling to room temperature in an efficient desiccator. The residue on evaporation shall be less than 10 mg per 50 ml of liquid.

Residue on Evaporation: less than 5mg per 50mls of liquid.

Result Conforms

4.1.5 Storage Stability: When stored for one year in sealed containers within the temperature range recommended by the manufacturer, the cleaning solvent shall still meet all the requirements of this specification.

Result Not performed

Client: ITW TechSpray Date: 07-Nov-2016
 Product: **TECHSPRAY PWR4™ AVIATION DEGREASER CONCENTRATE (2851-20S)**
 Dilution: As received SMI/REF: 1607-121
 ABR 9-0140 Type I Issue 6

4.1.6 Cleaning Capabilities: The cleaning efficiency shall be at least as good as that of a mixture of equal volumes of white spirit to BS 245 and either: (i) solvent naphtha to BS 479 or (ii) 3° xylol to BS 458 but may be further measured by the purchaser by means of such additional tests as he may consider necessary.

Result To be Cert. by Mfr.

4.1.7 Freedom from Corrosive Action: Unused panels of the following metals each 75 mm x 25 mm x 0.91 mm pre-treated or plated on faces and edges as described, shall be degreased by the method described in ABP-1294, dried at 100 ± 2°C for 2 hour, cooled and weighed to 0.0001 g.

The panels shall then be completely immersed in the cleaning solvent, separately, in stoppered containers at room temperature for 168 hours.

On completion of the immersion period the panels shall be removed from the cleaning solvent and rinsed thoroughly under running cold water, the surfaces being gently swabbed with cotton wool. They shall be rinsed in distilled water followed by a mixture of equal volumes of methylated spirit and acetone, dried at 100 - 105°C for 2 hour, cooled and weighed to 0.0001g. No attempt shall be made to remove any corrosion products from the panels before weighing. The panels shall finally be examined visually.

The metal panels shall not increase in weight by more than 1 mg and shall not decrease in weight by more than 5 mg. The metal panels shall not show pitting of the edges or surfaces, formation of adherent deposits or other signs of corrosion.

Alloy	Allowed / 1"x3" panel		Results (mg / panel)
	Increase	Decrease	
*Aluminum AMS 4037 bare aluminum anodized per MIL-A-8625 Type I	1 mg	5 mg	+ 0.7 mg
*Magnesium AMS 4376 bare AZ-31B-H26, no chromate film			+ 0.1 mg
*Copper AMS 4500 Copper (ASTM B152 – 99.9% Cu)			0.1 mg
*Steel AMS 5045 (1020 alloy)			+ 0.7 mg
*Cadmium plated steel AMS 5045, Bright Cadmium plated per MIL-STD-870, Type 2, Class 1 (with chromate seal)			+ 0.3 mg

***Substitutions previously approved by Airbus**

Visual observations: No pitting, adherent deposits or other signs of corrosion

Result Conforms