



INCREMENTAL CHANGE

Release Notification Date: 10/28/2021

SPM 70-00-99 SOLUTION SHEETS

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HIGHLIGHTS

<u>HIGHLIGHT REFERENCE</u>	<u>DESCRIPTION OF CHANGE</u>
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sk70-00-99-800-237	Technical Change: Changed procedure to monitor the baths in the Special Recommendations section.
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TASK 70-00-99-800-000

1. General.

- A. This chapter specifies each bath recommended in the cleaning and surface preparation treatment processes by solution sheets numbered SXXXX.
- B. A Solution Sheet is a document that specifies composition, preparation, checking, and regeneration of a solution.

NOTE: Two solutions which contain the same products but of different concentrations are treated as different solutions and are assigned separate solution numbers.

- C. A large number of the solutions and their constituents are dangerous for human skin and clothing. It is necessary for personnel to be well protected from any direct contact by wearing aprons, gloves, and protective goggles or face shields when working with these types of solutions. For this type of situation, the preparation instructions will be preceded by a WARNING note, as per the following example.

WARNING: ALKALINE SOLUTIONS ARE VERY ACTIVE AND CAN CAUSE SERIOUS BURNS. AVOID CONTACT WITH SKIN, EYES, AND CLOTHING. IF CONTACT OCCURS, WASH IMMEDIATELY WITH AN ABUNDANT QUANTITY OF WATER. AVOID BREATHING OF VAPORS.

WARNING: OPERATOR SHOULD WEAR A FACE SHIELD, GLOVES, PROTECTIVE CLOTHING, AND PROTECTIVE SHOES.

- D. The preparation and regeneration must be performed according to the order detailed in the procedures for preparing and regenerating the solution.
 - (1) Never pour water into concentrated acid.
 - (2) Pour the acid, alkali, or oxidizing agent very slowly into the water, small quantities at a time, without producing any splashing and with stirring after each addition.
- E. The preparation, checking, and regeneration of a solution must be accomplished with the guidance and responsibility of an experienced chemist.
- F. In cases where the supplier of the chemicals used in the preparation, checking, and regeneration of the following solutions is recommending a newer, up-dated analytical control

procedure, that new procedure may be substituted for the control procedures recommended in this 70-00-99 section, but the data showing correlation of results must be provided comparing the two methods of analysis.

2. Water for Electrolytic and Chemical Treatment Baths.

Subtask 70-00-99-800-235

A. Most of the baths, unless otherwise specified, are of the aqueous solution type. The water type is specified in Chapter 70-00-05.

3. Composition of Baths.

Subtask 70-00-99-800-236

A. The chemical compositions of the baths are expressed in ounces per US gallon; grams per liter for solid products; fluid ounces per US gallon; and milliliters per liter for liquid products.

4. Special Recommendations.

Subtask 70-00-99-800-237

A. Monitoring of Baths.

(1) The personnel utilizing the baths must be familiar with the characteristics and the performance of the baths. It is recommended that a record sheet for each bath be maintained which documents the following data.

(a) The typical composition, the limits of use, and the working conditions.

(b) The date and results of analyses accomplished:

1 After preparation.

2 During operation.

(c) The date and activity accomplished, such as additions, purifications, and regenerations, after special analyses or tests indicate corrective action is required.

(2) An analysis test method (titration, instrumental methods, etc.) and sampling practice are required. If a specific method is not given in the applicable solution sheet, the manufacturer's recommended methods should be followed. It is permitted to use an alternative method that is equivalent to the manufacturer's recommended method. A method should be developed locally if there is no manufacturer's recommended method. All frequency of testing statements (weekly, monthly, etc.) in this section are recommendations. Chemical depletion is a function of tank volume and throughput volume. Shops should have a quality plan based on statistical process control to sample the chemical tanks to make sure that they remain within control limits. Changes in throughput or part mix may require a return to more frequent sampling to assure control. The testing method and frequency must be documented in the internal shop quality plan.

B. Verification of the Equipment.

(1) Periodically verify the general state of tanks, of tank heating systems, of bath stirring facilities, and of vapor and fumes removal devices.

(2) Periodically verify the accuracy of measurement and control apparatus, such as voltmeters, ammeters, thermometers, densimeters, rheostats, pH-meters, and other apparatus that is utilized to monitor and control the baths.

5. Table of Solutions.

Subtask 70-00-99-800-238

NO.	NAME	CHAPTER
S0001	50:50 Nitric Acid Stripping Solution	70-23-06 70-23-07 70-23-12 70-23-24 70-23-25
S0002	Stripping Solution for Pure Aluminum Thermal Spray	70-23-08 70-23-18
S0003	Stripping Tungsten Carbide Thermal Sprayed Coating	70-23-09
S0004	Stripping Bond and Finish Coatings	70-23-07
S0005	Plating Remover for Nickel or Silver Plate	70-23-04
S0006	Chemical Stripping of Chromium Plate	70-23-05
S0007	Electrolytic Plating Remover of Chromium Plate	70-23-05
S0008	Deleted	
S0009	Stripping Tungsten or Chrome Carbide Thermal Spray	70-23-11
S0010	Stripping Nickel Plate	70-23-13
S0011	Stripping Solution for Epoxy Resin	70-23-14
S0012	Stripping Anodized Coating from Aluminum	70-23-15
S0013	50:50 Nitric/Phosphoric Acid Stripping Solution	70-23-16
S0014	Oxidizing Alkaline Cleaners	70-23-16
S0015	Stripping Aluminum Honeycomb Bonded with Narmco Metalbond 328	70-23-17
S0016	Stripping of Alumina-nickel Aluminum Composite and Duplex Coatings	70-23-18
S0017	Cyanide Stripping Aluminum Oxide/Nickel Aluminide Coatings	70-23-19
S1001	Alkaline Permanganate Solution - C04-058	70-21-07 70-21-10 70-21-17

		70-21-20
		70-22-02
		70-22-05
S1002	Deleted. Replaced by S1191	
S1003	Alkaline Degreasing/Rust Removing Solution for Titanium - C04-009	70-21-09 70-22-02
S1004	Alkaline Permanganate Solution - Caustic Soda Plus Potassium Permanganate	70-21-07 70-21-10 70-21-17 70-21-20 70-22-02 70-22-05
S1005	Deleted	
S1006	Alkaline Degreasing/Rust Removing Solution - C04-009	70-21-06 70-21-07 70-21-10 70-21-16 70-21-17 70-21-20 70-22-01
S1007	Oxide Conditioning Solution for Titanium - C04-080	70-22-02
S1008	Phosphoric Acid Solution with Inhibitor - C04-119	70-21-16 70-21-17 70-21-20
S1009	Acid Stripping Solution for Stainless Steel and Heat-resistant Alloys	70-21-10 70-21-20
S1010	Alkaline Degreasing/Rust Removing Solution for Titanium - Turco Vitroklene	70-21-09 70-22-02
S1011	Deleted	
S1012	Alkaline Permanganate Solution - C04-054	70-21-07 70-21-10 70-21-17 70-21-20 70-22-02 70-22-05
S1013	Acid Stripping Solution for Titanium - Nitric Acid Plus Turco 4104	70-21-13 70-22-02 70-22-12
S1014	Alkaline Permanganate Solution - C04-055	70-21-07 70-21-10 70-21-17 70-21-20 70-22-02 70-22-05
S1015	Deleted	
S1016	Phosphoric Acid Solution with Inhibitor - C04-120	70-21-16 70-21-17 70-21-20
S1017	Heavy Duty Alkaline Cleaner - C04-187	70-21-06 70-21-07 70-21-10 70-21-16 70-21-17 70-21-20
S1018	Alkaline Permanganate Solution - C04-188	70-21-07 70-21-10 70-21-17 70-21-20 70-22-02 70-22-05
S1019	Titanium Scale Conditioner - Ardrox 1630	70-22-02
S1020	Phosphoric Acid Solution with Inhibitor - C04-190	70-21-16 70-21-17 70-21-20
S1021	Acid Stripping Solution for Stainless Steel and Heat-resistant Alloy - Ardrox 1873	70-21-10 70-21-20
S1022	Phosphoric Acid Solution with Inhibitor - C04-121	70-21-16 70-21-17 70-21-20
S1023	Acid stripping Solution for Stainless Steel and Heat-resistant	70-21-10

	Alloy - Ardrox 1871	70-21-20
S1024	Alkaline Degreasing/Rust Removing Solution - C04-052	70-21-06 70-21-07 70-21-10 70-21-16 70-21-17 70-21-20
S1025	Alkaline Cleaning Solutions	70-21-03 70-22-03 70-46-01
S1026	Alkaline Degreasing/Rust Removing Solution - C04-049	70-21-06 70-21-07 70-21-10 70-21-16 70-21-17 70-21-20
S1027	Deleted	
S1029	Acid Stripping Solution for Titanium - Nitric Acid Plus Ardrox 1635	70-21-13 70-22-02 70-22-12
S1030	Alkaline Degreasing Solution - Cee-Bee C-46	70-21-09 70-22-02
S1031	Deleted	
S1034	Deleted	
S1035	Deleted	70-21-08
S1036	Deleted	
S1037	Deleted	
S1038	Heavy Duty Alkaline Cleaner - C04-048	70-21-07
S1039	Solvent Solution - C04-030	--
S1040	Solvent Solution - Stoddard Solvent	70-21-01
S1041	Magnetic-particle Suspension Solution	70-32-01 70-33-11
S1046	Solution for Ultrasonic Cleaning Compound Cleaner - C04-191	70-21-15
S1047	Solution for Ultrasonic Cleaning - Sodium Carbonate Plus Triton X100	70-21-15
S1048	Wet Abrasive Blasting with C10-042	70-21-05
S1050	Wet Abrasive Blasting - Aluminum Oxide 325 Grit	70-21-05
S1053	Deleted	
S1054	Wet Abrasive Blasting - Aluminum Oxide 500 Grit	70-21-05
S1103	Deleted	
S1104	Phosphoric Acid Solution with Inhibitor - C04-143	70-21-16 70-21-17 70-21-20
S1123	Developer - Ardrox 9D71	70-32-02
S1124	Developer - Zyglo ZP5A	70-32-02
S1125	Developer - Zyglo ZP13A	70-32-02
S1126	Developer - Fluro-Chek WD	70-32-02
S1127	Remover - Ardrox 9PR4	70-32-02
S1128	Remover - Zyglo ZR10A	70-32-02
S1129	Remover - Fluro-Chek E41	70-32-02
S1130	Silicone Rubber Remover Solution - Turco 6045	70-23-20
S1131	Silicone Rubber Remover Solution - Cee-Bee C-105HF	70-23-20
S1132	Silicone Rubber Remover Solution - Ardrox 2204	70-23-20
S1133	Plating Remover Solution - C04-155	70-23-21
S1134	ASC 2-N Acid Stripping Solution	70-23-21
S1135	50/50 Nitric/Phosphoric Acid Stripping Solution	
S1136	AIO Acid Stripping Solution	
S1137	Acid Stripping Solution for NiCrAlY Plasma Coatings	70-23-22
S1138	Acidic Stripper for Plasma and D-gun Deposited Coatings	70-23-09
S1139	Alkaline Degreasing/Rust Removing Solution for Titanium - C04-049	70-21-09 70-22-02
S1140	Alkaline Degreasing/Rust Removing Solution - C04-052	70-21-09

		70-22-02
S1141	Light Duty Alkaline Cleaning Solution - C04-163	70-21-22
S1142	Light Duty Alkaline Cleaner - Turco 5948R	70-21-22 70-46-01
S1143	Light Duty Alkaline Cleaner - C04-164	70-21-22 70-46-01
S1144	Light Duty Alkaline Cleaner - C04-165	70-21-22
S1145	Light Duty Alkaline Cleaner - C04-168	70-21-22 70-22-07 70-46-01
S1146	Versene Cleaning of Codep Coated HPTR Blades	70-22-07
S1147	Solvent Solution - Degreasol 99R	70-21-01 70-22-09
S1148	Light Duty Alkaline Cleaner - Jettacin	70-21-22
S1149	Ammonium Versene Cleaning Solution	70-22-08
S1150	Alkaline Degreasing/Rust Removing Solution - C04-182	70-21-06 70-21-07 70-21-10 70-21-16 70-21-17 70-21-20 70-22-01 70-23-02
S1151	Alkaline Degreasing Solution for Titanium - C04-182	70-21-09 70-21-10 70-22-02
S1152	Acid Stripping Solution for Stainless Steel and Heat-resistant Alloys - C04-183	70-21-10 70-21-20
S1153	Deleted	
S1154	Light-duty Alkaline Cleaner - C04-184	70-21-22
S1155	Paint and Carbon Remover - C04-185	70-21-08 70-23-01
S1156	In-process Corrosion Inhibitor Solution for Steel - C02-072	70-60-00
S1157	Deleted	
S1158	Light Duty Alkaline Cleaner - Mag-Chem Soluwax	70-21-22
S1159	Acid Stripping Solution for Stainless Steel and Heat-resistant Alloys	70-21-10 70-21-20
S1160	Paint and Carbon Remover - C04-194	70-21-08 70-23-01
S1161	Alkaline Degreasing/Rust Removing Solution - C04-212	70-21-06 70-21-07 70-21-10 70-21-16 70-21-17 70-21-20
S1162	Alkaline Degreasing/Rust Removing Solution - C04-213	70-21-06 70-21-07 70-21-10 70-21-16 70-21-17 70-21-20
S1163	Alkaline Permanganate Solution - C04-214	70-21-07 70-21-10 70-21-17 70-21-20 70-22-02
S1164	Alkaline Permanganate Solution - C04-215	70-21-07 70-21-10 70-21-17 70-21-20 70-22-02
S1165	Acid Stripping Solution for Stainless Steel and Heat-resistant Alloys - C04-216	70-21-10 70-21-20
S1166	Phosphoric Acid Solution with Inhibitor - C04-217	70-21-16 70-21-17 70-21-20
S1167	Plating for Nickel or Silver Plate	70-21-22

S1168	Alkaline Degreasing/Rust Removing Solution for Titanium - C04-212/C04-213	70-21-09 70-22-02
S1169	Solution for Inspection of Open Face Honeycomb	70-32-02
S1170	Light Duty Alkaline Cleaner - Super Bee 300LF	70-21-22 70-21-24
S1171	Paint and Carbon Remover - C04-105	70-23-01
S1172	Abradable Plastic Seal Compound (RSP-3)	70-43-15
S1173	Chromated Conversion Coating - C03-006 or C03-083	70-43-08
S1174	Chromated Conversion Coating - C03-046	70-43-08
S1175	Alkaline Degreasing/Rust Removing Solution for Titanium Parts - C04-233	70-21-09 70-22-02
S1176	Alkaline Degreasing/Rust Removing Solution for Non-Titanium Parts - C04-233	70-21-06 70-21-07 70-21-10 70-21-16 70-21-17 70-21-20
S1177	Alkaline Permanganate Solution - C04-234	70-21-07 70-21-10 70-21-17 70-21-20 70-22-02
S1178	Phosphoric Acid Solution with Inhibitor - C04-235	70-21-16 70-21-17 70-21-20
S1179	Acid Stripping Solution for Stainless Steel and Heat-Resistant Alloys - C04-236	70-21-10 70-21-20
S1180	Light-Duty Alkaline Cleaner - C04-208	70-21-22
S1181	Light-Duty Alkaline Cleaner - C04-193	70-21-22
S1182	Light-Duty Alkaline Cleaner - C04-237	70-21-22
S1183	Acid Stripping Solution for Stainless Steel and Heat-Resistant Alloys - C04-239 (for Cee-Bee J-3 product only)	70-21-10 70-21-20
S1184	Acid Stripping Solution for Stainless Steel and Heat-Resistant Alloys - C04-240 (for Ardrex 1873A product only)	70-21-10 70-21-20
S1185	Phosphoric Acid Solution with Inhibitor - C04-122	70-21-16 70-21-17 70-21-20
S1186	Plating Remover Solution - C04-244	70-23-21
S1187	Paint and Carbon Remover - C04-245	70-21-08 70-23-01
S1188	Plating Remover for Nickel or Silver Plate - C04-246	70-23-04
S1189	Alkaline Rust Remover - C04-247	70-22-03 70-22-05
S1190	Hydrochloric Acid Stripping Solution	70-21-13 70-22-02 70-22-12
S1191	Acid Stripping Solution for Titanium - Nitric Acid Plus Ammonium Bifluoride	70-21-13 70-22-02 70-22-12
S1192	Acid Stripping Solution for Titanium - Nitric Acid Plus Cee-Bee P-109	70-21-13 70-22-02 70-22-12
S1196	Magnesium Hydroxide Suspension	None
S1198	Alkaline Cleaning Solution - C04-052	70-22-01
S1199	Alkaline Cleaning Solution - C04-009	70-22-01
S1200	Solution for Inspection of Open Face Honeycomb	70-33-02
S1201	Deleted	
S1202	Deleted	
S1203	Alkaline Permanganate Cleaner (C04-273)	70-21-07 70-21-10 70-21-17 70-21-20 70-22-02 70-22-05 70-22-12
S1204	Light Duty Alkaline Cleaning Solution - C04-267	70-21-22

S1205	Alkaline Permanganate Cleaner C04-279	70-21-07 70-21-10 70-21-17 70-21-20 70-22-02 70-22-05 70-22-12 70-23-26
S1206	Acid Stripping Solution for Ni-Cr-Al-Y Plasma Coatings on Rene 88DT	70-23-28
S1207	Light Duty Alkaline Cleaner - C04-289	70-21-22
S1208	Neutral Deoxidizing/Rust Removing Solution - C04-290	70-21-07
S1209	Aqueous Cleaner for Cleanliness Inspection - C04-015	70-21-15 70-22-07 70-22-80
S1210	Aqueous Cleaner for Cleanliness Inspection - C04-293	70-22-80
S1211	Light Duty Alkaline Cleaner - C04-296	70-21-22
S1212	Non-Chromated Conversion Coating - C03-114	70-43-07 70-43-18
S1213	Coke Removing Solution	--

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