

GENERAL SOLVENTS/CLEANERS - MAINTENANCE PRACTICES

1. General

- A. Solvents are used in a wide range of cleaning activities and selected solvents can be used in the removal of oil, grease and dirt from objects without harm to metal, plastics or elastomeric parts. Refer to Tools, Equipment and Materials.

2. Tools, Equipment and Materials

NOTE: Equivalent substitutes may be used for the following items.

NAME	NUMBER	MANUFACTURER	USE
Detergent		Commercially available	General cleaning.
ScotchBrite Pads	Type A	3M Co. 3M Center St. Paul, MN 55101	Light abrasion of metal surfaces.
Sandpaper	320 Grit	Commercially available	Light abrasion of metal surfaces.
Rymple Cloth		Commercially available	Wiping and applying cleaning agents.
Wiping cloth white, oil free, absorbent		Commercially available	Wiping and applying cleaning agents.

3. Description

- A. Solvents exhibit a selective solvent action which permits its use in the removal of oil, grease or dirt. For selection of proper solvent, refer to Table 201. For the cleaning of metal, plastics or rubber, proceed as follows:

(1) Metal.

NOTE: Prior to bonding or priming, lightly abrade surface with either a ScotchBrite pad or sandpaper prior to cleaning.

- Wipe off all excess oil, grease or dirt from surface.
- Apply solvent to a clean cloth by pouring solvent on the cloth from a safety can or other approved container. The cloth should be well saturated but not to the point of dripping.
- Wipe the surface with the moistened cloth as required to dissolve or loosen soil. Work on small enough area so the surface being cleaned remains wet.
- With a clean dry cloth, immediately wipe the surface while the solvent is still wet. Do not allow the surface to evaporate dry.
- Repeat steps (b) through (d) until there is no discoloration on the drying cloth.

(2) Plastic or Rubber.

NOTE: If cleaning a bonding surface, lightly abrade the bonding surface with sandpaper prior to cleaning.

- Remove heavy soil from surface by washing with a water detergent solution.
- Apply solvent to a clean cloth by pouring solvent onto cloth from a safety can or other approved container. The cloth should be well saturated but not to the point where dripping.
- Wipe the surface with the moistened cloth as required to dissolve or loosen soil. Work on a small enough area so that the surface being clean remains wet.
- Using a clean dry cloth, immediately wipe the surface while the surface is still wet. Do not allow the surface to evaporate dry.
- Repeat steps (b) through (d) until there is no discoloration on the drying cloth.

Table 201. General Solvents

CLEANER/ SOLVENT	FEDERAL SPECIFICATION	TYPE CLASSIFICATION	USE/ DESCRIPTION FUNCTION	CAUTION/ WARNING
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Dry	MIL-PRF-680	Type I - 100◆F Type II - 140◆F	General cleaning solvent. Dry cleaning of textile materials. Grease removal.	FLAMMABLE.
1-1-1 Inhibited Technical Trichloroethane	ASTM D4126	Type I - Regular Type II - with dauber Type III - Aerosol	Spot removing from fabrics. General cleaning solvent. Cleaning of assembled equipment.	USE WITH ADEQUATE VENTILATION. AVOID PROLONGED BREATHING OF VAPOR. AVOID PROLONGED CONTACT WITH SKIN.
Turco Seal Solvent Turco Products			Cleaning/Degreasing metal parts.	
Penwalt 2331			Preparing metal plate for painting.	ACID ACTIVATED SOLVENT, DO NOT USE ON PLASTICS.
Carbon Removing Compound	P-C-111A		Use in soak tank to facilitate removal of carbon, gum, oil and other surface contaminants except rust or corrosion from engine and other metal parts.	REMOVES PAINT. AVOID CONTACT WITH SKIN.
Cleaning Compound	P-C-535		Heavy duty electro cleaner used for removal of soils from ferrous metal surfaces prior to electroplating or other treatments.	
Cleaning Compound, Unfinished Aluminum	MIL-C-5410	Type I - Viscous Emulsion Type II - Clear Liquid	Used full strength for overhaul of unfinished aluminum surfaces. Use full strength or diluted with mineral spirits and water for maintenance of airplane unfinished aluminum surfaces.	
Trichloroethylene	ASTM D4080	Type I - Regular Type II - Vapor Degreasing	Cleaning of metal parts. Degreasing of metal parts. Special purpose solvent.	REMOVES PAINT AND DAMAGES PLASTICS. USE ONLY WITH ADEQUATE VENTILATION. HIGH CONCENTRATIONS OF VAPOR ARE ANESTHETIC AND DANGEROUS TO LIFE. VERY TOXIC.
Polish, Metal Aluminum	MIL-P-6888C	Type I - Liquid Type II Paste	Metal polish for use on airplane aluminum surfaces.	FLAMMABLE.
Naphtha, Aliphatic	TT-N-958	Type I Type II	For use with organic coatings only. Cleaner for acrylic plastics and may be used in place of Type I General cleaning agent.	DO NOT USE WITH ACRYLIC PLASTICS. FLAMMABLE. VAPOR HARMFUL. AVOID PROLONGED OR REPEATED BREATHING OR CONTACT WITH SKIN.
DeSoclean 110, 020K019	X547506		Paint and adhesive thinner, cleaning agent.	FLAMMABLE.

Isopropyl Alcohol	TT-I-735	Grade B -0.4% water	For use with organic coatings and as an anti-icing fluid. General Solvent for synthetic rubbers.	USE DISCRIMINATELY WITH ACRYLIC PLASTICS.
Wax, Airplane, Waterproof Solvent Type	MIL-W-18723C		A waterproof wax that can be dissolved or dispersed with an organic solvent.	DO NOT USE SOLVENTS THAT MAY DAMAGE PAINT OR FINISH FOR REMOVAL OF WAX.
Cleaning Compound, Aluminum	MIL-C-5410B	Type I - Viscous Emulsion Type II - Clear Liquid	Use full strength for maintenance of unfinished aluminum surfaces. Use full strength or diluted with mineral spirits and water for maintenance of unfinished aluminum surfaces.	RUBBER OR SYNTHETIC RUBBER GLOVES AND EYE PROTECTION SHOULD BE USED WHEN HANDLING THE COMPOUND. WASH FROM SKIN IMMEDIATELY WITH WATER OR A SOLUTION OF SODIUM BICARBONATE AND APPLY GLYCERIN OR PETROLEUM JELLY. WASH FROM EYES AS PER MANUFACTURER'S INSTRUCTIONS AND REPORT TO NEAREST MEDICAL FACILITY.
Methyl n- Propyl Ketone		Type II	Cleaner	FLAMMABLE. EYE PROTECTION SHOULD BE USED WHEN HANDLING. USE ONLY WITH ADEQUATE VENTILATION. VAPOR CONCENTRATIONS MAY CAUSE DROWSINESS AND IRRITATION OF EYES OR RESPIRATORY TRACT.

4. Safety Precautions

- A. Caution should be exercised during cleaning operations. Solvents should be considered flammable and should not be exposed to flame or spark under any circumstances. Fresh air masks and/or adequate ventilation are required for all closed areas.