



# Technical Manual Aviation Strippers



**RemovALL™**

# TECHNICAL DATA SHEET



# Technical Information

## SV-35 A

### Aircraft Coating Remover

#### Product Description

SV-35 A is a benzyl-alcohol-based, acid-activated stripper. Its combination of 100% biodegradability and very low odor make it user friendly and environmentally safe.

#### Physical Properties

Appearance: ..... orange emulsion  
HAPS: ..... none  
SARA Reportable Items:..... none  
Odor:..... very low  
Specific Gravity:..... 1.02  
pH: ..... 2.0-3.0  
Boiling Point: ..... 100°C / 212°F  
Freezing Point: ..... 0°C / 32°F  
Viscosity:..... 4,000-12,000 (cPs)  
Flashpoint:..... > 80°C / 176°F  
Stability: ..... Stable  
Application Temperature: ..... > 4°C / 39°F  
Application Concentration: ..... as shipped  
VOC Content: ..... 97 g/L (0.81 lb/gal)  
Transportation Regulations: ... not regulated

#### Approvals

- Boeing
- BAE Systems
- FedEx
- American Airlines

#### General Application Instructions

- Use with piston-type drum pump (5:1 or 10:1 preferred) or airless sprayer with Teflon seals (all Titan models and all but the smallest Graco model)
- Use with 25-65° fans and 05-20 tips. Example: VeeJet from Spraying Systems
- Safe for aluminum, titanium, and steel
- Not for use on high strength steel
- Not to be used on acrylic or glass windows
- Warmer temperatures accelerate stripping
- Proper safety procedures should be followed at all times. All personnel should review MSDS before use.

(Procedures for use on opposite side)

## Procedures

### Preparation:

- Prior to application, mask all painted surfaces not being stripped. Follow OEM (Original Equipment Manufacturer) or internal documentation for appropriate masking procedures.
- The surface to be stripped should be generally clean but does not need to be completely free of dust or oil.
- Mix drum thoroughly for 20-30 minutes before stripping by recirculating the stripper with the pump before spraying. The stripper should look creamy and be uniform in color.

### Application:

- Spray apply with the equipment recommended above. Pouring is also effective. Brushing and rolling should be limited to small areas due to the inconsistent film builds produced.

### Coverage and Dwell Time:

- Dwell time is typically 1-6 hours but varies with the type of paint and the number of layers. Coverage rate is normally between 40 to 90 ft<sup>2</sup> per US gallon. (1 to 2.2 m<sup>2</sup> per liter)
- For standard primer/topcoat systems, apply 8 to 10 wet mils (20 to 25 microns) of SV-35. For multiple layers, apply approximately 2 additional mils (5 microns) per layer of dry paint or **as a rule of thumb apply the stripper thick enough so that you cannot see the color of the paint through the stripper.**
- Apply stripper in an even coat with no globs or heavy spots as these may cause the stripper to sag or slide off the aircraft. **Once the stripper is applied DO NOT agitate it.** This will adversely affect the performance of the stripper. As long as the stripper is visibly wet it is working.

### Removal and Cleanup:

- Removal of lifted paint can be completed with a squeegee, brush, wet/dry vacuum system or by high pressure water wash.
- Spot reapply stripper to any remaining painted areas and repeat removal procedures.
- Rinse the aircraft starting at the keel and move upward. Hot, pressurized water is ideal for removing any lightly adhered paint but any thorough water rinse is sufficient to fully remove the stripper.
- Do not seal the waste drums for 48 hours after collecting the paint waste.
- Collect and dispose of the solid paint waste in accordance with local governmental regulations.

### Storage:

- Do not store in direct sunlight
- Protect from extreme temperatures. DO NOT FREEZE
- Seal partially used drums when not in use



# Technical Information

## SV-35 C

### Aircraft Coating Remover

#### Product Description

SV-35 C is a benzyl-alcohol-based alkaline stripper. Its combination of 100% biodegradability and very low odor make it user friendly and environmentally safe. SV-35 C can be used to strip all common metal substrates.

#### Physical Properties

Appearance: ..... yellow emulsion  
HAPS: ..... none  
SARA Reportable Items:..... none  
Odor:..... very low  
Specific Gravity:..... 1.05  
pH: ..... 8.0 – 11.0  
Boiling Point: ..... 100°C / 212°F  
Freezing Point: ..... 0°C / 32°F  
Viscosity:..... 6,000-9,000 (cPs)  
Flashpoint:..... > 80°C / 176°F  
Stability: ..... Stable  
Application Temperature: ..... > 4°C / 39°F  
Application Concentration: ..... as shipped  
VOC Content: ..... 99 g/L (0.82 lb/gal)  
Transportation Regulations: ... not regulated

#### Approvals

- Boeing
- Fokker
- Raytheon
- ATR

#### General Application Instructions

- Use with piston-type drum pump (5:1 or 10:1 preferred) or airless sprayer with Teflon seals (all Titan models and all but the smallest Graco model)
- Use with 25-65° fans and 05-20 tips. Example: VeeJet from Spraying Systems
- Safe for aluminum, titanium, steel, magnesium and cadmium plated surfaces
- Non-embrittling
- Not to be used on acrylic or glass windows
- Warmer temperatures accelerate stripping
- Proper safety procedures should be followed at all times. All personnel should review MSDS before use.

(Procedures for use on opposite side)

## Procedures

### Preparation:

- Prior to application, mask all painted surfaces not being stripped. Follow OEM (Original Equipment Manufacturer) or internal documentation for appropriate masking procedures.
- The surface to be stripped should be generally clean but does not need to be completely free of dust or oil.
- Mix drum thoroughly for 20-30 minutes before stripping by recirculating the stripper with the pump before spraying. The stripper should look creamy and be uniform in color.

### Application:

- Spray apply with the equipment recommended above. Pouring is also effective. Brushing and rolling should be limited to small areas due to the inconsistent film builds produced.

### Coverage and Dwell Time:

- Dwell time is typically 3-9 hours but varies with the type of paint and the number of layers. Coverage rate is normally between 40 to 90 ft<sup>2</sup> per US gallon. (1 to 2.2 m<sup>2</sup> per liter)
- For standard primer/topcoat systems, apply 8 to 10 wet mils (200 to 250 microns) of SV-35. For multiple layers, apply approximately 2 additional mils (50 microns) per layer of dry paint or **as a rule of thumb apply the stripper thick enough so that you cannot see the color of the paint through the stripper.**
- Apply stripper in an even coat with no globs or heavy spots as these may cause the stripper to sag or slide off the aircraft. **Once the stripper is applied DO NOT agitate it.** This will adversely affect the performance of the stripper. As long as the stripper is visibly wet it is working.

### Removal and Cleanup:

- Removal of lifted paint can be completed with a squeegee, brush, wet/dry vacuum system or by high pressure water wash.
- Spot reapply stripper to any remaining painted areas and repeat removal procedures.
- Rinse the aircraft starting at the keel and move upward. Hot, pressurized water is ideal for removing any lightly adhered paint but any thorough water rinse is sufficient to fully remove the stripper.
- Do not seal the waste drums for 48 hours after collecting the paint waste.
- Collect and dispose of the solid paint waste in accordance with local governmental regulations.

### Storage:

- Do not store in direct sunlight
- Protect from extreme temperatures. DO NOT FREEZE
- Seal partially used drums when not in use



# Spray Grade

# SV-35 PMA

## Aircraft Coating Remover



SV-35 PMA is a benzyl-alcohol-based stripper activated with a patented blend of non-embrittling acid and hydrogen peroxide. Its combination of 100% biodegradability and very low odor make it user friendly and environmentally safe. In side-by-side trials SV-35 PMA has proven to be one of the fastest and most thorough strippers available. It is recommended for CARC, and difficult to remove coatings.

### FEATURES

- Not hydrogen embrittling
  - Water-based
  - Fully biodegradable
  - Non-flammable
  - Non-carcinogenic
  - Easy clean-up with running water
  - Low VOCs
  - Non-ozone-depleting
  - Not regulated by authorities for transportation / storage
  - Will not burn skin
  - Non toxic
  - Low odor
- Cost effective because:**
- Requires much less chemical to achieve desired results
  - Reduces man-hours and effort required to complete a project
  - Reduces cost of waste disposal
  - Reduces down time since other work at site can continue while stripper does its job
  - Lowers insurance costs for storage hazards

### TYPICAL USES

SV-35/PMA has proven it will effectively lift all types of aviation coatings including polyurethane, enamel, epoxy and solvent based primers. It is designed for use on the following substrates:

- 6A1-4V Titanium (AMS 4911)
- 4130 (AMS 6350) steel per mil-S-18729
- Clad 2024-T3 Aluminum (AMS 4041)
- Bare 7075-T6 Aluminum (AMS 4045) anodized per mil-A-8625
- Bare 2024-T3 Aluminum anodized (AMS 4037) per mil-C-5541
- Bare 2024-T3 Aluminum anodized (AMS 4037) per mil-A-8625

### PROPERTIES

Appearance: Pink  
 Specific Gravity: 1.06  
 Boiling Point: 100°C/212°F  
 Freezing Point: 0°C/32°F  
 pH: 3.0-4.0  
 VOC Content: 102g/L (0.85 Lbs./Gal.)  
 Flashpoint: 47° to 48°C / 117° to 118°F  
 Viscosity: 4,000-12,000 (cPs)  
 Shelf Life: 24 months  
 Coverage: 40 to 90 sq.ft./US Gal.  
 1 to 2.2 sq.m/L  
 Stability: Stable  
 Worker Health and Safety: See MSDS

### OEM COMPLIANCE

SV-35 PMA has been rigorously tested by an independent laboratory using tests specified by Airbus, BAE Systems, Raytheon and FedEx. Results are available upon request. SV-35 PMA is not hydrogen embrittling ASTM F 519-93.

### PACKAGING

<b>VOLUME:</b>	<b>WEIGHT:</b>
1 US Gal. (4/case)	38 Lbs.
3.8 L (4/case)	17.2 Kg
	17" x 17" x 8.5"
5 US Gal. pail	48 Lbs.
18.9 L pail	21.7 Kg
	12" x 12" x 15"
55 US Gal. drum	510 Lbs.
205 L drum	231.3 Kg
	24" x 24" x 36"



One Pallet takes 36 pails or 30 cases  
 Not regulated by transport authorities



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**EQUIPMENT AND TOOLS:** Use with a diaphragm or piston-type drum pump (5:1 or 10:1 preferred) or airless sprayer with Teflon seals. Use only airless equipment with chemical resistant components, such as a HERO 85 SEL or larger pump. Use with 25°-65° fans and 0.017 to 0.020 tips. Other equipment: brushes, rollers, scraper, masking tape, plastic (polyethylene) sheet, pressure washer, electric drill with mixer, empty pails for clean-up, running water, and rags.

**PREPARATION:**

(a) **MASKING:** Cover / protect areas where stripping is not desired, including adjoining surfaces where over spray may travel. **Do not allow stripper to contact acrylic or glass windows.** Follow OEM (Original Equipment Manufacturer) or internal documentation for appropriate masking procedures.

(b) **MIXING:** Never shake RemovALL™ SV-35 PMA! Using a drill mixer, mix SV-35 PMA until all product is uniform in color and is creamy in consistency. (About 1 minute per gallon). Shaking will cause product to separate.

(c) **EQUIPMENT:** Remove all filters from the pump, sprayer and gun. Prime the pump and run stripper through the hose and gun until all previous water / solvent / paint residue has been cleaned out.

The surface to be stripped should be generally clean but does not need to be completely free of dirt or oil.

**TEST PATCH:** Conduct a small test patch in an inconspicuous area to ensure product performance. This will indicate the time required for project completion, suitability of product for paint and substrate, and most effective removal method.

**APPLICATION PROCEDURE:** Spray apply with the equipment recommended above. Pouring is also effective. Brushing and rolling should be limited to small areas due to the inconsistent film builds produced. Apply the stripper thick enough so that you cannot see the color of the paint through the stripper layer. Apply stripper in an even coat with no globs or heavy spots as these may cause the stripper to sag or slide off the aircraft. Once the stripper is applied DO NOT agitate it. This will adversely affect the performance of the stripper. As long as the stripper is visibly wet, it is working.

When removing O.E.M. finishes of 2 to 3.5 mils. (50 to 87.5 microns), apply a minimum of 15 mils. (381 microns) of SV-35 PMA. When removing multiple layers increase the applied mil. thickness by approximately 2 mils. (50 microns) per paint layer.

**RE-APPLICATION:** When removing multiple finishes, there may be poor adhesion between repaints, in these cases SV-35 PMA may lift paint in layers. When this happens, remove the lifted coatings and reapply SV-35

PMA. Do not rinse with water between applications. Do not allow the stripper to dry out. The stripper is designed to remain wet and effective over extended periods of time (up to 48 hours), but excessive sunshine, windy conditions or insufficient stripper thickness can cause early drying. If the stripper starts to dry, re-apply a light coating and allow extra time for completion.

**DWELL TIME:** Dwell time is typically 3 to 8 hours. The required time may vary depending on: types and/or brands of paints being removed, number of paint layers, thickness of the coatings, aircraft coating substrate and ambient temperature.

**COVERAGE:** Coverage is approximately 40 to 90 sq.ft./US Gal. (1 to 2.2 sq.m./L).

Note: 0.08 fl.oz. will provide one wet mil. to 1 sq.ft. of surface. 1 Gal. at 15 mils. will cover approximately 50 sq.ft. (1.2 sq.m./L).

**OPTIMUM TEMPERATURE:** Surface temperatures should be 65° to 95°F (18° to 35°C). The product performs effectively at lower temperatures - even at 39°F (4°C), but the dwell time increases.

**REMOVAL AND CLEANUP:** Removal of lifted paint can be completed with a squeegee, brush, wet/dry vacuum system or by high pressure water wash. Rinse the aircraft starting at the keel and move upward. Hot pressurized water is ideal for removing any lightly adhered paint but any thorough water rinse is sufficient to fully remove the stripper. If the stripper and paint waste will be collected undiluted (before the aircraft is rinsed) a minimum of 8 hours must elapse from the time the stripper is applied to the aircraft until the stripper and paint mixture is collected and put in a waste drum. **CAUTION:** Paint and stripper residue containing peroxide placed in contact with metal or rust will generate oxygen gas and heat. Use only plastic drums or metal drums with plastic linings for waste collection. Do not mix with other wastes including rags, aluminum tape, etc. Do not seal the waste drums for 48 hours after collecting the stripper and paint waste mixture. Collect and dispose of the solid paint waste in accordance with local governmental regulations.

**STORAGE:** Do not store SV-35 PMA, in direct sunlight. Protect product from freezing. Do not store product and paint residue in metallic containers. Clean fluid section of sprayer after use.

**SAFETY PRECAUTIONS:** Proper safety procedures should be followed at all times while handling the product. Refer to the Material Safety Data Sheet for important health and safety information before use.

# Spray Grade

# RemovALL™ 1012

## Aircraft Coating Remover



RemovALL™ 1012 is a benzyl-alcohol-based stripper activated with a patented blend of non-embrittling acid and hydrogen peroxide. Its combination of 100% biodegradability and very low odor make it user-friendly and environmentally safe. In side-by-side trials RemovALL™ 1012 has proven to be one of the fastest and most thorough strippers in the non-HAPS market segment. It is recommended for CARC, and other difficult to remove coatings.

### FEATURES

- Not hydrogen embrittling
  - Water-based
  - Fully biodegradable
  - Non-flammable
  - Contains no TAPs or HAPs (Toxic / Hazardous Air Pollutants)
  - Non-carcinogenic
  - Easy clean-up with running water
  - Low VOCs
  - Non-ozone-depleting
  - Not regulated by authorities for transportation / storage
  - Will not burn skin
  - Non toxic
  - Low odor
- Cost effective because:**
- Requires much less chemical to achieve desired results
  - Reduces man-hours and effort required to complete a project
  - Reduces cost of waste disposal
  - Reduces down time since other work at site can continue while stripper does its job
  - Lowers insurance costs for storage hazards

### TYPICAL USES

RemovALL™ 1012 has proven it will effectively lift all types of aviation coatings including polyurethane, enamel, epoxy and solvent based primers. It is designed for use on all Boeing D6-17487 Metals including magnesium.

### PROPERTIES

Appearance:	Yellow
Specific Gravity:	1.06
Boiling Point:	100°C / 212°F
Freezing Point:	0°C / 32°F
pH:	7.0
VOC Content:	69.6 g/L (0.58 Lbs./Gal)
Flashpoint:	57 to 58°C / 135 to 136°F
Viscosity:	4,000-12,000 (cPs)
Shelf Life:	24 months
Coverage:	40 to 90 sq.ft./US Gal.
(theoretical)	1 to 2.2 sq.m/L
Stability:	Stable

Worker Health and Safety:  
See MSDS

### OEM COMPLIANCE

RemovALL™ 1012 has been rigorously tested by an independent laboratory using tests specified by Boeing (D6-17487). Results are available upon request. RemovALL™ is not hydrogen embrittling ASTM F 519.

### PACKAGING

<b>VOLUME:</b>	<b>WEIGHT:</b>
1 US Gal. (4/case)	36 Lbs.
3.8 L (4/case)	16 Kg
	17" x 17" x 8.5"
5 US Gal. pail	45 Lbs.
18.9 L pail	20 Kg
	12" x 12" x 15"
55 US Gal. drum	500 Lbs.
205 L drum	226.8 Kg
	24" x 24" x 35"

One Pallet takes 36 pails or 30 cases  
Not regulated by transport authorities



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**EQUIPMENT AND TOOLS:** Use with a diaphragm or piston-type drum pump (5:1 or 10:1 preferred) or airless sprayer with Teflon seals. Use only airless equipment with chemical resistant components, such as a HERO 85 SEL or larger pump. Use with 25°-65° fans and 0.017 to 0.020 tips. Other equipment: brushes, rollers, scraper, masking tape, plastic (polyethylene) sheet, pressure washer, electric drill with mixer, empty pails for clean-up, running water, and rags.

**PREPARATION:**

(a) **MASKING:** Cover / protect areas where stripping is not desired, including adjoining surfaces where over spray may travel. **Do not allow stripper to contact acrylic or glass windows.** Follow OEM (Original Equipment Manufacturer) or internal documentation for appropriate masking procedures.

(b) **MIXING:** Never shake RemovALL™ RemovALL™ 1012! Using a drill mixer, mix RemovALL™ 1012 until all product is uniform in color and is creamy in consistency. (About 1 minute per gallon). Shaking will cause product to separate.

(c) **EQUIPMENT:** Remove all filters from the pump, sprayer and gun. Prime the pump and run stripper through the hose and gun until all previous water / solvent / paint residue has been cleaned out.

The surface to be stripped should be generally clean but does not need to be completely free of dirt or oil.

**TEST PATCH:** Conduct a small test patch in an inconspicuous area to ensure product performance. This will indicate the time required for project completion, suitability of product for paint and substrate, and most effective removal method.

**APPLICATION PROCEDURE:** Spray apply with the equipment recommended above. Pouring is also effective. Brushing and rolling should be limited to small areas due to the inconsistent film builds produced. Apply the stripper thick enough so that you cannot see the color of the paint through the stripper layer. Apply stripper in an even coat with no globs or heavy spots as these may cause the stripper to sag or slide off the aircraft. Once the stripper is applied DO NOT agitate it. This will adversely affect the performance of the stripper. As long as the stripper is visibly wet, it is working.

When removing O.E.M. finishes of 2 to 3.5 mils. (50 to 87.5 microns), apply a minimum of 15 mils. (381 microns) of RemovALL™1012. When removing multiple layers increase the applied mil. thickness by approximately 2 mils. (50 microns) per paint layer.

**RE-APPLICATION:** When removing multiple finishes, there may be poor adhesion between repaints, in these cases RemovALL™ 1012 may lift paint in layers. When this happens, remove the lifted coatings and reapply Remov-

ALL™ 1012. Do not rinse with water between applications. Do not allow the stripper to dry out. The stripper is designed to remain wet and effective over extended periods of time (up to 48 hours), but excessive sunshine, windy conditions or insufficient stripper thickness can cause early drying. If the stripper starts to dry, re-apply a light coating and allow extra time for completion.

**DWELL TIME:** Dwell time is typically 3 to 8 hours. The required time may vary depending on: types and/or brands of paints being removed, number of paint layers, thickness of the coatings, aircraft coating substrate and ambient temperature.

**COVERAGE:** Coverage is approximately 40 to 90 sq.ft./US Gal. (1 to 2.2 sq.m./L).

Note: 0.08 fl.oz. will provide one wet mil. to 1 sq.ft. of surface. 1 Gal. at 10 mils. will cover approximately 75 sq.ft. (1.8 sq.m./L).

**OPTIMUM TEMPERATURE:** Surface temperatures should be 65° to 95°F (18° to 35°C). The product performs effectively at lower temperatures - even at 39°F (4°C), but the dwell time increases.

**REMOVAL AND CLEANUP:** Removal of lifted paint can be completed with a squeegee, brush, wet/dry vacuum system or by high pressure water wash. Rinse the aircraft starting at the keel and move upward. Hot pressurized water is ideal for removing any lightly adhered paint but any thorough water rinse is sufficient to fully remove the stripper. If the stripper and paint waste will be collected undiluted (before the aircraft is rinsed) a minimum of 8 hours must elapse from the time the stripper is applied to the aircraft until the stripper and paint mixture is collected and put in a waste drum. **CAUTION:** Paint and stripper residue containing peroxide placed in contact with metal or rust will generate oxygen gas and heat. Use only plastic drums or metal drums with plastic linings for waste collection. Do not mix with other wastes including rags, aluminum tape, etc. Do not seal the waste drums for 48 hours after collecting the stripper and paint waste mixture. Collect and dispose of the solid paint waste in accordance with local governmental regulations.

**STORAGE:** Do not store RemovALL™1012, in direct sunlight. Protect product from freezing. Do not store product and paint residue in metallic containers. Remove pump barrel from stripper after spraying is finished. Clean fluid section of sprayer after use.

**SAFETY PRECAUTIONS:** Proper safety procedures should be followed at all times while handling the product. Refer to the Material Safety Data Sheet for important health and safety information before use.