



Olsun Electric Corporation

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Olsun Electric Corporation Paint System

Olsun Electric uses a fully automated, continuous line, six stage paint system in the manufacture of all our metal product enclosures. The paint system is operated within our Fabrication Center located in Spring Grove, Illinois, where all of the enclosures are produced. Enclosure “panel part assemblies” are painted after the metal is sheared, punched and formed but prior to final enclosure assembly to assure uniform paint coverage on all surfaces of the completed enclosure assembly. Because all formed edges and holes are treated and painted in the process we employ, there is no chance for the formation of rust on a completed enclosure due to untreated metal.

Olsun Paint System - Stage Identification

Stage 1. The metal assembly passes through a heated phosphate and detergent wash.

Stage 2. The metal assembly is rinsed.

Stage 3. A sealer is applied to inhibit rust and provide a base for the finish coating.

Stage 4. The assembly is oven dried to eliminate any residual moisture contamination.

Stage 5. A Polyester Resin Powder Paint is electrostatically applied in an automated powder spray booth

Stage 6. The assembly passes through a bake oven, which fuses the paint to the metal.

The above process is fully automated and the material is not handled after initial paint system loading (just prior to Stage 1) and final unloading (upon completion of Stage 6).

Paint Characteristics – “ASA-61 P Gray”

- Manufactured by DuPont Powder Coatings, part number PFH-509-S5.
- U.L. listed for outdoor service, file listing number MH8342 (N).
- Color: ANSI 61 gray. Nearly identical to Federal Standard Color 595B-26314
- Type: TGIC – Polyester
- Application:

Electrostatic Spray, Cold	Substrate: 0.032 inches CRS
Pretreatment: Bonderite 1000	Cure Schedule: 10 minutes at 400 degrees F.
Film Thickness: 2.0 – 2.5 mils	

Olsun Electrics Corporation Paint System – (con't.)

Testing Characteristics

<u>Test Method</u>	<u>Powder Properties</u>	
ASTM D5965-96, C	Specific Gravity Theoretical Coverage	1.62 +/- 0.05% 119 +/- 4 ft. ² / lb. / mil
ASTM D3451-92, 13	Mass loss during cure Maximum storage Temperature	< 0.5% 75 degrees F.

<u>Test Method</u>	<u>Coating Properties</u>	
ASTM D523-89	Gloss at 60 degrees F.	50 – 60
HOI TM 10.219	PCI Powder Smoothness	6
ASTM D2454-91	Overbake Resistance, Time	< 100%
ASTM D3363-92a	Pencil Hardness	H-2H
ASTM D2794-93	Direct / Reverse Impact, Gardner	60 / 20 in/lbs
ASTM D3359-95B	Adhesion, Cross Hatch	5B PASS
ASTM D522-93a	Flexibility, Mandrel	¼ inch diameter, no fracture
ASTM B117-94	Salt Spray	1000 Hours
UL DTOV2 Organic Coatings	Steel Enclosures, Electrical Equip.	Recognized

Olsun Electrics Corporation Paint System – (con't.)

**MSDS PFH509S5055
MATERIAL SAFETY DATA SHEET**

Product name: ASA-61 P GRAY
Product code: PFH509S5055
Product date: JUL 09 2001 Print date: 11/14/02 MSDS Page 1

MSDS Section 1 - Product and Company Identification

Product Name: ASA-61 P GRAY

Company Identification: DuPont Powder Coatings
9800 Genard Rd
Houston, TX 77041-7624
Telephone/Fax: 713.939.4000 / 713.939.4025
Chemtrec International(24hr):703.527.3887 Collect
Chemtrec USA(24hr): 800.424.9300

Product Class: COATING POWDER
Product Number: PFH509S5

MSDS Section 2 - Ingredient Information

Ingredient Name	CAS Number	Percent
BARIUM SULFATE	007727-43-7	15 - 40
TITANIUM DIOXIDE	013463-67-7	5 - 10
1,3,5-Triglycidyl Isocyanurate	002451-62-9	1 - 5
NUISANCE DUST	N/A	100

Olsun Electrics Corporation Paint System – (con't.)

MSDS Section 3 - Hazards Identification

These acute and chronic health effect statements address exposure to the pure chemicals only. In a coating powder these components are mixed within the coating and direct exposure to them is not likely.

ACUTE HEALTH EFFECTS:

(1,3,5-Triglycidyl Isocyanurate)

INGESTION: Moderately toxic. Symptoms are not fully known, may include loss of appetite and nose bleeding. INHALATION: Irritating to upper respiratory tract. May cause nosebleeds.

EYE CONTACT: Irritating.

SKIN CONTACT: Irritating. Can be absorbed through the skin in harmful amounts. Effects similar to ingestion.

(BARIUM SULFATE)

Inhalation of dusts containing barium sulfate may be irritating to the respiratory tract. Contact with the eyes may also cause irritation. In 1994, US EPA deleted barium sulfate from the category "barium compounds" on the list of toxic chemicals for which reporting is required. The final rule is in 40 CFR Part 372.

(TITANIUM DIOXIDE)

INGESTION: Low oral toxicity. No toxic effects due to ingestion are described in literature.

INHALATION: Irritating to upper respiratory tract.

EYE CONTACT: Irritating.

CHRONIC HEALTH EFFECTS:

(1,3,5-Triglycidyl Isocyanurate)

Irritation of eyes, skin and respiratory tract; loss of appetite, may cause nosebleeds; toxic by ingestion and if absorbed through the skin. Prolonged or repeated contact may cause skin sensitization. Animal studies show that overexposure can result in toxic effects to the testes, possible effects on liver and lungs, and possible adverse male reproductive effects.

(BARIUM SULFATE)

Prolonged exposure could cause benign pneumoconiosis called Baritosis.

(TITANIUM DIOXIDE)

Laboratory studies show that inhalation exposure to high levels (250 mg/kg) of Titanium Dioxide causes cancerous tumors in rats. This response occurs at lower exposure levels and may be due to the high levels overwhelming normal lung clearance mechanisms. The relevance of this data to humans is not significant where the TLV is observed.

Olsun Electrics Corporation Paint System – (con't.)

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY OVEREXPOSURE:

(1,3,5-Triglycidyl Isocyanurate)

Respiratory illness & dermatitis may be aggravated by excessive exposure.

PRIMARY ROUTES OF ENTRY:

Inhalation, Dermal, or Ingestion

MSDS Section 4 - First Aid Measures

EYE CONTACT

Flush eyes with cool water for 15 minutes, occasionally lifting lids to ensure thorough rinsing. Seek medical assistance.

SKIN CONTACT

Wash thoroughly with soap and water.

INHALATION

Remove from area to fresh air.

INGESTION

Drink 1 or 2 glasses of water and induce vomiting by placing finger at back of throat. Seek medical assistance.

MSDS Section 5 - Fire Fighting Measures

MEC \geq 26g/m³ (see sec. 16)

EXTINGUISHING MEDIA

X FOAM _X_ CO₂ _X_ DRY CHEMICAL _X_ WATER FOG _X_ DRY SAND

FIRE FIGHTING INSTRUCTIONS

Use fully protective equipment with self-contained breathing apparatus. The material has a flammability rating similar to a water-borne coating.

Olsun Electrics Corporation Paint System – (con't.)

MSDS Section 6 - Accidental Release Measures

CLEAN-UP

Sweep up carefully or use explosion-proof vacuum cleaner, then dispose in accordance with local, state and federal regulations.

MSDS Section 7 - Handling and Storage

HANDLING

Keep all equipment clean and properly grounded to avoid static electricity discharge. Keep work areas free of dust. Avoid excessive skin contact. Do not ingest or inhale. Keep out of the reach of children.

STORAGE

Keep containers sealed and avoid static electricity discharges.

MSDS Section 8 - Exposure Controls / Personal Protection

Occupational Exposure Limits

<u>ACGIH TLV</u>	<u>ACGIH TLV-C</u>	<u>ACGIH STEL</u>	<u>OSHA STEL</u>	<u>OSHA PEL</u>
BARIUM SULFATE 10.00 mg/M3	N/A	N/A	N/A	5.00 mg/M3
TITANIUM DIOXIDE 10.00 mg/M3	N/A	N/A	N/A	10.00 mg/M3
1,3,5-Triglycidyl Isocyanurate 0.05 mg/M3	N/A	N/A	N/A	N/A
NUISANCE DUST 10.00 mg/M3	N/A	N/A	N/A	N/A

ENGINEERING CONTROLS

Provide sufficient ventilation in volume and pattern to keep air contamination concentration below applicable OSHA permissible exposure levels or ACGIH's TLV TWA limit.

Olsun Electrics Corporation Paint System – (con't.)

RESPIRATORS

Use properly fitted NIOSH/MSHA approved gas & vapor respirators, or conventional respirators, or negative pressure respirators or particulate respirators, or FFR (filtering facepiece respirator) to avoid breathing dust.

OTHER CLOTHING

PROTECTIVE GLOVES: Recommended to avoid skin contact.

EYE PROTECTION: Goggles or safety glasses w/side shields recommended.

OTHER PROTECTIVE EQUIPMENT: Protective overalls recommended. Remove and wash soiled clothing.

MSDS Section 9 - Physical and Chemical Properties

Spec. Grav., ASTM D5965-96,C:1.62

MSDS Section 10 - Stability and Reactivity

Stability: This product is stable

Hazardous Polymerization: Hazardous polymerization will not occur

HAZARDOUS DECOMPOSITION PRODUCTS: Fumes may contain CO, CO₂, NO₂ or other Nitrogen compounds.

MSDS Section 11 - Toxicological Information

Route Species Exposure and Dose

TITANIUM DIOXIDE

Oral Rat, adult LD50 9500. PPM

1,3,5-Triglycidyl Isocyanurate

Oral Rat, adult LD50 440. PPM

MSDS Section 12 - Ecological Information

None known

Olsun Electrics Corporation Paint System – (con't.)

MSDS Section 13 - Disposal Considerations

Manage or dispose in accordance with local, state and federal regulations.

MSDS Section 14 - Transport Information

Not Regulated

MSDS Section 15 - Regulatory Information

All ingredients in this product are listed in the T.S.C.A. Inventory.

Weight loss is less than one percent when using US EPA Federal Reference Method 24 (ASTM D2369). This weight loss is mostly water (ASTM D4107) with a trace amount of organic material. This trace amount should be considered Volatile Organic Compound (VOC) Content.

MSDS Section 16 - Other Information

HMIS Rating:	Health=1*	Fire=1	Reactivity=0	PPE=E
NFPA 704 Rating:	Health=1	Fire=1	Reactivity=0	

(Rating Definitions)

Health 1-Slight hazard, irritation possible

Health *-Long term health effects may result from repeated overexposure

Fire 1-Slight hazard, needs considerable preheat before combustion will occur

Reactivity 0-Minimal hazard, materials are normally stable

PPE E-ANSI, Z87 approved safety glasses, gloves, negative pressure or particulate respirators

Other Definitions:

MEC (sec. 5) = Minimum Explosive Concentration

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