

MATERIAL SAFETY DATA SHEET



May 1, 1988

DULUX® ALKYD ENAMEL

Section I

Manufacturer

E. I. du Pont de Nemours & Co. (Inc.)
Automotive Products Dept.
Wilmington, Delaware 19898
Telephone: Product information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300
(CHEMTREC)

Product: Dulux Alkyd Enamel Tints, Miscellaneous Factory
Packaged Codes

D.O.T. Hazard Class: Flammable liquid
Paint UN 1263

Hazardous Materials Identification System:
H = 2, F = 3, R = 0.

Section II — Hazardous Ingredients (See Section X for ingredients listed by product code)

Ingredients	CAS No.	Vapor Pressure (20°C mm Hg.)	Exposure Limits*
1. Alkyd resin	66070-61-9	None	Unknown
2. Aluminum	7429-90-5	None	10mg/m ³ -A
3. Aromatic hydrocarbon	64742-95-6	10	25ppm-O
4. Carbon black	1333-86-4	None	3.5mg/m ³ -A,O
5. Dioxazine carbozole pigment	None	None	Unknown
6. Ferric ferrocyanide pigment	14038-43-6	None	Unknown
7. Iron oxide	1309-37-1	None	Unknown
8. Lead chromate	18454-12-1	None	150µg/m ³ -A-Pb 50µg/m ³ -O-Pb 50µg/m ³ -A-Cr 100µg/m ³ -O-Cr
9. Lead chromate-molybdate	12656-85-8	None	150µg/m ³ -A-Pb 50µg/m ³ -O-Pb 50µg/m ³ -A-Cr 100µg/m ³ -O-Cr
10. Lead drier	61790-14-5	None	Unknown
11. Medium mineral spirits	64742-88-7	10	100ppm-D
12. Monoazo pigment	None	None	Unknown
13. Phthalocyanine blue pigment	147-14-8	None	10mg/m ³ -D
14. Phthalocyanine blue pigment	None	None	10mg/m ³ -D
15. Phthalocyanine green pigment	None	None	10mg/m ³ -D
16. Quinacridone pigment	1047-16-4	None	10mg/m ³ -D
17. Tetrachloroisosolidine yellow pigment	None	None	Unknown

18. Thio indigo pigment	14295-43-3	None	Unknown
19. Titanium dioxide	13463-67-7	None	10mg/m ³ -A 15mg/m ³ -O
20. Toluene	108-88-3	36.7	100ppm-A, 200ppm-O, 150ppm-A-(STEL), 300ppm-O-C 500ppm-O Max 10 Min
21. Toluidine pigment	None	None	None
22. Triethylamine	121-44-8	52	10ppm-A, 25ppm-O
23. VM&P naphtha	64742-89-8	None	300 ppm-A, 100ppm-D
24. Xylene	1330-20-7	25	100ppm-A,O, 150ppm-A-(STEL)

25. Aliphatic hydrocarbon	64742-88-7	None	None
26. Aromatic hydrocarbon	64742-95-6	None	None
27. Aromatic hydrocarbon	64742-94-5	None	None

*A = ACGIH TLV, O = OSHA, D = Du Pont internal limit,
S = Supplier Furnished Limit, STEL = Short Term Exposure Limit (15 mins.), C = Ceiling

Section III — Physical Data

Evaporation Rate: Slower than ether	Volume % volatile: 61.2-67.9
Solubility in water: Miscible	Weight % volatile: 45.6-59.0
Vapor density: Heavier than air	
Boiling range: 85-228°F	V.O.C. (#/Gal): 3.5-6.0
Gal. weight (#/Gal): 7.72-9.33	

Section IV — Fire & Explosion Data

Flash point (Closed cup): 73-100°F
Approx. flammable limits: 0.8-10.7 percent.
Extinguishing media: Water spray, foam, carbon dioxide, dry chemical
Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to cool closed containers to prevent pressure build up.
Unusual fire & explosion hazards: When heated above the flash point, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mists or sprays may be flammable at temperatures below the flash point.

Section V — Health Hazard Data

General Effects

Ingestion: Gastro-intestinal distress.
In the unlikely event of ingestion, call a physician immediately and have the names of ingredients available.

Section V — Health Hazard Data — Continued

Inhalation: May cause nose and throat irritation. Repeated and prolonged overexposure to solvents may lead to permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are signs that solvent levels are too high. These products may be used in combination with a hardener which contains an isocyanate. Exposure to isocyanates may cause asthma-like reactions with shortness of breath, wheezing, cough or lung sensitization. This effect may be delayed for several hours after exposure. Individuals with lung or breathing problems or prior reaction to isocyanates must not be exposed to vapors or spray mist of this product. If affected by inhalation of vapor or spray mist, remove to fresh air. If breathing difficulty persists, or occurs later, consult a physician.

Skin or eye contact: May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact wash with soap and water. If irritation occurs, contact a physician.

Specific effects

Toluene: Recurrent overexposure may result in liver and kidney injury. High airborne levels have produced irregular heart beats in animals and occasional palpitations in humans. Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown. **Xylene:** High concentrations have caused embryotoxic effects in laboratory animals. Recurrent overexposure may result in liver and kidney injury. Can be absorbed through the skin in harmful amounts. **Triethylamine:** Contact may cause skin burns. Causes eye corrosion and permanent injury. May cause temporary upper respiratory and/or lung irritation with cough, difficulty breathing, or shortness of breath. **VM&P Naphtha and Medium Mineral Spirits:** Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage nor kidney or liver tumors. **Lead Chromate and Lead Chromate Molybdate:** Overexposure to lead may cause adverse effects to the blood forming, nervous, urinary, reproductive systems including embryotoxic effects. Symptoms may include loss of appetite, anemia, disturbance of sleep and fatigue. See OSHA lead standard 29CFR1910.1025 for exposures longer than 8 hours. The OSHA exposure limit is reduced by this formula: Limit (in $\mu\text{g}/\text{m}^3$) = 400/hours worked in the day. These pigments are NTP carcinogens. **Titanium Dioxide:** In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/ m^3 respirable Titanium dust. Analysis of the Titanium Dioxide concentrations in the rat's lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/ m^3 level are not relevant to the workplace. **Alkyd resin:** Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. **Lead drier:** Overexposure to lead may cause adverse effects to the blood forming, nervous, urinary, reproductive system including embryotoxic effects. Symptoms may include loss of appetite, anemia, disturbance of sleep and fatigue. See OSHA lead standard 29CFR1910.1025. For exposures longer than 8 hours, the OSHA exposure limit is reduced by this formula: Limit (in $\mu\text{g}/\text{m}^3$) = 400/hours in the day. Can be absorbed through the skin in harmful amounts.

Section VI — Reactivity Data

Stability: Stable
Incompatibility (materials to avoid): None reasonably foreseeable
Hazardous decomposition products: CO, CO₂, smoke, oxides of heavy metals reported in Section II
Hazardous polymerization: Will not occur

Section VII — Spill or Leak Procedures

Steps to be taken in case material is released or spilled: Ventilate area. Remove sources of ignition. Prevent skin contact and breathing of vapor. Wear a properly fitted vapor/particulate respirator (NIOSH/MSHA TC-23C). Confine and remove with inert absorbant.
Waste disposal method: Do not allow material to contaminate ground water systems. Incinerate absorbed material in accordance with federal, state and local requirements. Do not incinerate in closed containers.

Section VIII — Special Protection Information

Respiratory: Do not breathe vapors or mists. Wear a properly fitted NIOSH/MSHA approved paint spray respirator (TC-23C) during application and until all vapor and spray mist are exhausted. In confined spaces or in situations where continuous spray operations are typical or if proper respirator fit is not possible or if this product is used with an isocyanate additive (Dulux® Plus), wear a positive pressure, supplied-air respirator (TC-19C). Refer to the additive label and MSDS for further information. In all cases, follow the respirator manufacturer's directions for respirator use; do not permit anyone without protection in the painting area.
Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.
Protective clothing: Neoprene gloves and coveralls are recommended.
Eye protection: Desirable in all industrial situations. Include splash guards or side shields.

Section IX — Special Precautions

Precautions to be taken in handling and storing: Observe label precautions. Keep away from heat, sparks and flame. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating or smoking. Do not store above 120°F.
Other precautions: Do not sand, flame cut, braze or weld dry coating without a NIOSH/MSHA approved respirator or appropriate ventilation.

Section X — Hazardous Ingredients by Product Code

Product Code	Ingredients (See Section II)
93-082	1, 3, 8, 9, 10, 11, 23, 24
93-421	1, 3, 8, 9, 10, 11, 19, 23, 24
93-508	1, 3, 10, 11, 19, 23, 24
93-1226	1, 3, 8, 9, 10, 11, 19, 23, 24
93-1863	1, 3, 8, 9, 10, 11, 23, 24
93-3421	1, 3, 8, 9, 10, 11, 19, 23, 24
93-3430	1, 3, 10, 11, 14, 19, 20, 23, 24
93-5127	1, 3, 10, 11, 14, 19, 20, 23, 24
93-21667	1, 3, 10, 11, 14, 19, 20, 23, 24
93-24160	1, 3, 6, 10, 11, 14, 19, 20, 23, 24

Section V — Health Hazard Data — Continued

Product Code	Ingredients (See Section II)	Product Code	Ingredients (See Section II)
93-54701	1, 3, 8, 9, 10, 11, 19, 20, 23, 24	26D	1, 3, 11, 16, 23, 24
93-65541	1, 3, 6, 8, 10, 11, 15, 19, 20, 23, 24	32D	1, 3, 11, 16, 23, 24
93-71890	1, 3, 8, 9, 10, 11, 19, 23, 24	34D	1, 3, 11, 20, 23, 24
93-75306	1, 3, 8, 9, 10, 11, 19, 20, 23, 24	35D	1, 3, 11, 16, 20, 23, 24
93-77161	1, 3, 6, 8, 10, 19, 20, 23, 24	36D	1, 3, 9, 11, 20, 23, 24
93-77698	1, 3, 10, 11, 19, 20, 21, 23, 24	37D	1, 2, 3, 11, 20, 23, 24
93-93774	1, 3, 10, 11, 19, 20, 23, 24	38D	1, 3, 7, 11, 20, 23, 24
93-95616	1, 3, 9, 10, 11, 19, 20, 21, 23, 24	39D	1, 3, 7, 11, 20, 22, 24
93-96766	1, 3, 10, 11, 19, 20, 21, 23, 24	40D	1, 3, 8, 11, 20, 23, 24
93-97902	1, 3, 9, 10, 11, 16, 19, 20, 23, 24	41D	1, 3, 8, 11, 20, 23, 24
181-23994	1, 2, 3, 11, 20	42D	1, 3, 5, 11, 23, 24
1D	1, 3, 11, 19, 20, 23, 24	43D	1, 3, 7, 11, 23, 24
2D	1, 3, 4, 11, 20, 23, 24	47D	1, 3, 11, 13, 23, 24
3D	1, 3, 6, 11, 20, 24	52D	1, 3, 7, 11, 23, 24
5D	1, 3, 7, 11, 20, 23, 24	56D	1, 2, 3, 11, 20, 23, 24
12D	1, 3, 11, 20, 23, 24	58D	1, 3, 11, 14, 23, 24, 25, 26, 27
13D	1, 3, 11, 20, 23, 24	59D	1, 3, 11, 14, 20, 23, 24
14D	1, 3, 11, 18, 20, 24	69D	1, 3, 11, 16, 23, 24
15D	1, 3, 11, 14, 20, 23, 24	4357D	1, 3, 8, 9, 10, 11, 19, 20, 23, 24
16D	1, 3, 9, 11, 20, 23, 24	7744D	1, 3, 8, 10, 11, 19, 20, 23, 24
19D	1, 3, 11, 20, 21, 23, 24	23254D	1, 3, 7, 8, 9, 10, 11, 19, 20, 23, 24
21D	1, 2, 3, 11, 20, 23, 24		
23D	1, 3, 4, 7, 11, 14, 15, 19, 20, 23, 24		
24D	1, 3, 4, 7, 11, 15, 19, 20, 23, 24		
25D	1, 3, 5, 11, 20, 23, 24		

Notice: The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or in any process.

"The following notice is required by California Proposition 65.
 'Warning: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.' "

Product Manager
 Refinish Sales