



MATERIAL SAFETY DATA SHEET

IMRON® POLYURETHANE ENAMEL

Section I

Manufacturer

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

Product: Imron Polyurethane Enamel
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. Methyl ethyl ketone	78-93-3	71	200ppm-A, O; 300ppm-A-(STEL)
2. Toluene	108-88-3	36.7	100ppm-A; 200ppm-O; 150ppm-A-(STEL); 300ppm-O-C 500ppm-O Max 10 Min 400ppm-A, O
3. Ethyl acetate	141-78-6	76	
4. Propylene glycol monomethyl ether acetate	108-65-6	3.8	Unknown
5. Xylene	1330-20-7	25	100ppm-A, O; 150ppm-A-(STEL)
6. VM&P naphtha	64742-89-8	15	100ppm-D; 300ppm-A; 500ppm-O
7. Chrome antimony titanate	None	None	0.5mg/m ³ -A, O-Sb
8. Aluminum	7429-90-5	None	10mg/m ³ -A
9. Carbon black	1333-86-4	None	3.5mg/m ³ -A, O
10. Lead chromate molybdate	12656-85-8	None	150µg/m ³ -A; 50µg/m ³ -A; 50µg/m ³ -O-Pb; 100µg/m ³ -O-Cr
11. Lead chromate	18454-12-1	None	150µg/m ³ -A; 50µg/m ³ -A; 50µg/m ³ -O-Pb; 100µg/m ³ -O-Cr
12. Nickel, antimony, titanium yellow pigment	8007-18-9	None	0.5mg/m ³ -A, O-SB

13. Titanium dioxide	13463-67-7	None	10.0mg/m ³ -A; 15 mg/m ³ -O
14. Phthalocyanine blue toner	147-14-8	None	10mg/m ³ -D
15. Acrylic resins	9011-14-7	None	Unknown
16. Butyl acetate	123-86-4	8	150ppm-A, O; 200ppm-A-(STEL)
17. N-butyl alcohol	71-36-3	5.5	100ppm-O; 25ppm-D; 50ppm-C-A
18. Aromatic hydrocarbons	64742-95-6	10	25ppm-O; 50ppm-D
19. Medium mineral spirits	64742-88-7	10	100ppm-A, D; 500ppm-O
20. Monoazo pigment	None	None	Unknown
21. Iron oxide	1309-37-1	None	Unknown
22. Phthalocyanine blue pigment	147-14-8	None	10mg/m ³ -D
23. Dioxazine Carbozole pigment	None	None	Unknown
24. Tetrachloro-isosolinone yellow pigment	None	None	Unknown
25. Isoindolinone pigment	None	None	Unknown
26. Phthalocyanine green pigment	None	None	10mg/m ³ -D
27. Quinacridone pigment	1047-16-1	None	10mg/m ³ -D

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

Section III — Physical Data

Evaporation rate: Slower than ether
Solubility in water: Miscible
Vapor Density: Heavier than air
Boiling Range: 76°F-155°F

Gal. Wt. (#/gal): 8.25-11.19
Volume % Volatile: 60.6-69.4%
Weight % Volatile: 42.8-63.6%
V.O.C. (#/gal): 3.5-6.0

Section IV — Fire & Explosion Data

Flash point (Closed cup): 73-100°F
Approx. flammable limits: 1.0-13.1%.
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 names of ingredients available.

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. This product cannot be applied satisfactorily without the addition of an activator which contains an isocyanate. Exposure to the isocyanate 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 the vapors or spray mist.

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

Methyl Ethyl Ketone: High concentrations have caused embryotoxic effects in laboratory animals. Methyl Ethyl Ketone (MEK) has been demonstrated to potentiate (i.e., shorten the time of onset) the peripheral neuropathy caused by either N-Hexane or Methyl N-Butyl Ketone. MEK by itself has not been demonstrated to cause peripheral neuropathy. Liquid splashes in the eye may result in chemical burns. **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. **Ethyl Acetate:**

Prolonged and repeated high exposures of laboratory animals resulted in secondary anemia with an increase in white blood cells; fatty degeneration, cloudy swelling and an excess of blood in various organs. **Propylene Glycol Monomethyl Ether Acetate:**

May cause moderate eye burning. Recurrent overexposure may result in liver and kidney injury. **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. **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. **Chrome Antimony Titanate, Nickel, Antimony, Titanium Yellow Pigment:**

Antimony, nickel and chromium are incorporated into the crystal structure of titanium dioxide. As such they are chemically and biologically inert. **Lead Chromate Molybdate, Lead Chromate and Lead:** 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. Lead can be absorbed through the skin in harmful amounts. **Titanium Dioxide:** In a lifetime inhalation test, lung cancers were found in some rats exposed to

250 mg/m³ respirable titanium dust. Analysis of the titanium dioxide concentrations in the rats' lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m³ level are not relevant to the workplace. **Butyl Acetate:** Extremely high concentrations have caused blood changes and weakness in laboratory animals. **N-Butyl Alcohol:** Liquid splashes in the eye may result in chemical burns.

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). If the material has been activated with an isocyanate, wear a positive pressure supplied air respirator (NIOSH/MSHA TC-19C).

Confine and remove with inert absorbant.

Deactivate isocyanate containing spills with:

20% Surfactant (Tergitol TMN-10)

80% Water

or

0-10% Ammonia

2-5% Detergent

Balance Water

Water 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 positive pressure, supplied-air respirator (NIOSH/MSHA TC-19C) while mixing activator with enamel, during application and until all vapors and spray mists are exhausted. Individuals with a history of lung or breathing problems or prior reaction to isocyanate should not use or be exposed to this product when activated. Do not permit anyone without protection in the painting area. Follow the respirator manufacturer's directions for respirator use.

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)
520U, 523U	2, 4, 5, 8, 15, 17, 18, 19
521U	2, 4, 5, 8, 15, 16, 17, 19
522U	2, 4, 5, 8, 15, 16, 17, 18, 19
531U, 535U	2, 3, 4, 9, 15
532U	2, 3, 4, 12, 15
533U, 553U, 557U, 558U, 565U	2, 3, 4, 15, 27
534U, 539U, 540U, 544U, 562U	2, 3, 4, 15, 20
536U, 556U	2, 3, 4, 15, 21
537U	2, 3, 4, 7, 15
541U	2, 3, 4, 15, 25
543U	2, 3, 4, 15, 24
547U	2, 3, 4, 10, 15
548U, 560U	2, 3, 4, 11, 15
550U	2, 3, 4, 5, 7, 8, 15
552U, 559U, 566U	2, 3, 4, 15, 22
554U, 555U	2, 3, 4, 13, 15
561U	2, 3, 4, 15, 26
563U	1, 2, 3, 4, 5, 6, 15, 21
564U	2, 3, 4, 5, 6, 15, 21
567U	2, 3, 4, 15, 23
568U	2, 3, 4, 5, 15, 22
571U, 572U	2, 3, 4, 6, 15

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