## SECTION 1. Identification of the substance/preparation and of the company/undertaking

Manufacturer: E.I. du Pont de Nemours & Co.
DuPont Performance Coatings
Wilmington, DE, 19898

Telephone:
Product information: (800) 441-7515
Medical emergency: (800) 441-3637
Transportation emergency: (800) 424-9300 (CHEMTREC)

Product: **Metal Treatments**

DOT Shipping Name: See DOT Addendum.

Hazardous Materials Information: See Section 10.



## SECTION 2. Composition/information on ingredients

| INGREDIENTS | CAS # | VAPOR PRESSURE | EXPOSURE LIMITS |
|---|---|---|---|
| 3-aminopropyltriethoxysilane | 919-30-2 | 1.0 | A None<br>O None |
| Chromic acid | 1333-82-0 | None | A None<br>O None |
| Ethanol, 2-(2-butoxyethoxy)- | 112-34-5 | 0.0 | D 5.0 ppm<br>A None<br>O None |
| Ethylene glycol monobutyl ether | 111-76-2 | 0.6 | A 20.0 ppm<br>O 50.0 ppm<br>Skin<br>D 5.0 ppm<br>Skin<br>D 5.0 ppm |
| Isopropyl alcohol | 67-63-0 | 48.0 | A 400.0 ppm<br>15 min STEL<br>A 200.0 ppm<br>O 400.0 ppm<br>D 200.0 ppm<br>8 & 12 hour TWA |
| Octylphenoxypolyethoxy ethanol | 9036-19-5 | None | A None<br>O None |
| Phosphoric acid | 7664-38-2 | 0.0 | A 3.0 mg/m3<br>15 min STEL<br>A 1.0 mg/m3<br>O 1.0 mg/m3<br>D 1.0 mg/m3<br>8 & 12 hour TWA |
| Potassium fluoride | 7789-23-3 | None | A 2.5 mg/m3<br>as fluorine<br>O None |
| Water | 7732-18-5 | 23.6 | A None<br>O None |

***A=ACGIH, O=OSHA, D=DuPont, S=Suppliers. Limits are 8 hour TWA unless otherwise specified. Vapor pressure @ 20° C unless otherwise noted.**

## SECTION 3. Hazards identification

**Potential Health Effects:**
**Inhalation:**
May cause nose and throat irritation. May cause nervous system depression, characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. If this product contains or is mixed with an isocyanate activator/hardener, the following health effects may apply: Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

**Ingestion:**
May result in gastrointestinal distress.

**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.

**Other Potential Health Effects in addition to those listed above:**
**3-aminopropyltriethoxysilane**
Skin contact may cause any of the following: irritation, chemical burns. Eye contact may cause any of the following: permanent eye injury, eye corrosion.

**Chromic acid**
Is an IARC, NTP or OSHA carcinogen. Health studies have shown that chromate pigment manufacturing may be associated with an increase risk of lung cancer. Chromic acid overexposure causes severe irritation to eyes and may cause blindness. May cause deep, painful penetrating ulcers on skin. May cause severe irritation of the respiratory tract and nasal septum and possible perforation. Prolonged or repeated eye contact may cause conjunctivitis. Solutions can be absorbed through the skin in harmful amounts leading to kidney failure and death. Death has been avoided in several cases through early renal dialysis. Repeated or prolonged skin contact may cause any of the following: dermatitis, allergic skin rash. The following medical conditions may be aggravated by overexposure: asthma. Repeated or prolonged skin or eye contact may cause any of the following: irritation. Repeated or prolonged inhalation may cause any of the following: respiratory tract irritation, sensitization, asthma-like reactions, e.g. wheezing, chest tightness.
WARNING: This chemical is known to the State of California to cause cancer.

**Ethanol, 2-(2-butoxyethoxy)-**
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system, eyes, kidneys, liver, skin. Tests in laboratory animals have shown effects on any of the following organs/systems: blood, kidneys, liver. Recurrent overexposure may result in liver and kidney injury. High doses in laboratory animals have shown non specific effects such as irritation,

weight loss, moderate blood changes. Eye contact may cause any of the following: severe irritation, burns, corneal injury.

**Ethylene glycol monobutyl ether**
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: bone marrow, central nervous system, eyes, gastrointestinal system, kidneys, liver, respiratory system, skin. May cause injury to the kidneys, liver, blood and/or bone marrow. Repeated overexposure may result in damage to the blood. Eye contact may cause corneal injury. Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother. If absorbed through the skin, may be: harmful.

**Isopropyl alcohol**
The following medical conditions may be aggravated by exposure: dermatitis, respiratory disease. Developmental toxicity was seen in rat's offspring at doses that were maternally toxic. Contact will cause moderate to severe redness and swelling, itching, tingling sensation, painful burning. May cause injury to the cornea of the eyes. Prolonged or repeated exposure may cause damage to any of the following organs/systems: liver. Ingestion studies on laboratory animals showed that very high oral doses caused increased liver and kidney weights.

**Octylphenoxypolyethoxy ethanol**
Eye contact may cause any of the following: conjunctivitis, severe irritation, chemical burns.

**Phosphoric acid**
Ingestion may cause any of the following: burns to mouth and stomach. Inhalation of vapor may cause any of the following: burns to respiratory system. Skin or eye contact may cause any of the following: burns.

**Potassium fluoride**
Contact may cause skin burns.

## SECTION 4. First aid measures

**First Aid Procedures:**
**Inhalation:**
If affected by inhalation of vapor or spray mist, move to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.

**Ingestion:**
In the unlikely event of ingestion, DO NOT INDUCE VOMITING. Call a physician immediately and have names of ingredients available.

**Skin or eye contact:**
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 thoroughly with soap and water. If irritation occurs, contact a physician.

## SECTION 5. Fire-fighting measures

**Flash Point (Closed Cup):** See Section 11 for exact values.

**Flammable Limits:** LFL 1.1 % UFL 12.7 %

**Extinguishing Media:**
Universal aqueous film-forming foam, carbon dioxide, dry chemical.

**Fire Fighting Procedures:**
Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to prevent pressure build-up.

**Fire and Explosion Hazards:**
For flammable liquids, vapor/air will ignite when an ignition source is present. In other cases, 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 6. Accidental release measures

**Procedures for cleaning up spills or leaks:**
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor. If material does not contain or is not mixed with an isocyanate activator/hardener: Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly. If the material contains, or is mixed with an isocyanate activator/hardener: Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 20% Surfactant (Tergitol TMN 10) and 80% Water OR 0-10% Ammonia, 2-5% Detergent and Water (balance). Pressure can be generated. Do not seal waste containers for 48 hours to allow C02 to vent. After 48 hours, material may be sealed and disposed of properly.

**Ecological information:**
There is no data available on the product. The product should not be allowed to enter drains, water courses or the soil.

## SECTION 7. Handling and storage

**Precautions to be taken in handling and storing:**
Observe label precautions. If combustible (flashpoint between 100 - 200 deg F), keep away from heat, sparks and flame. If flammable (flashpoint less than 100 deg F), also keep away from static discharges and other sources of ignition. If material is extremely flammable (flashpoint less than 20 deg F) or flammable, VAPORS MAY IGNITE EXPLOSIVELY OR CAUSE FLASH FIRE, respectively. Vapors may spread long distances. Prevent buildup of vapors. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F. If product is waterbased, do not freeze.

**Other precautions:**
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves.

## SECTION 8. Exposure controls / personal protection

**Engineering controls and work practices:**
**Ventilation:**
Provide sufficient ventilation in volume and pattern to keep contaminants below applicable exposure limits.

**Respiratory protection:**
Do not breathe vapors or mists. If this product contains isocyanates or is used with an isocyanate activator/hardener, wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C) while mixing activator/hardener with paint, during application and until all vapors and spray mist are exhausted. If product does not contain or is not mixed with an isocyanate activator/hardener, a properly fitted air-purifying respirator

with organic vapor cartridges (NIOSH TC-23C) and particulate filter (NIOSH TC-84A) may be used. Follow respirator manufacturer s directions for respirator use. Do not permit anyone without protection in the painting area. Individuals with history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed vapor or spray mist if product contains or is mixed with isocyanate activators/hardeners.

**Protective equipment:**
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

**Skin protection:**
Neoprene gloves and coveralls are recommended.

**Eye protection:**
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

## SECTION 9. Physical and chemical properties

| | |
|---|---|
| Evaporation rate | Slower than Ether |
| Water solubility | NIL |
| Vapour density | Heavier than air |
| Approx. Boiling Range (°C) | 82.5 - 265 °C |
| Approx. Freezing Range (°C) | 0 - 21 °C |
| Gallon Weight (lbs/gal) | 7.21 - 9.65 |
| Specific Gravity | 0.86 - 1.16 |
| Percent Volatile By Volume | 49.78 - 99.66 |
| Percent Volatile By Weight | 45.22 - 99.25 |
| Percent Solids By Volume | 0.34 - 50.23 |
| Percent Solids By Weight | 0.75 - 54.78 |

## SECTION 10. Stability and reactivity

**Stability:**
Stable

**Incompatibility (materials to avoid):**
None reasonably foreseeable

**Hazardous decomposition products:**
CO, C02, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

**Hazardous Polymerization:**
Will not occur.

**Sensitivity to Static Discharge:**
For flammable materials (flashpoint less than 100 deg F) and combustibles (flashpoint between 100-200 deg F) if heated above the flashpoint, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

**Sensitivity to Mechanical Impact:**
None known.

## SECTION 11. Additional Information

**225S™** Ethylene glycol monobutyl ether(14%*), Octylphenoxypolyethoxy ethanol, Phosphoric acid, Potassium fluoride, Water
**GAL WT: 9.33 WT PCT SOLIDS: 26.34 VOL PCT SOLIDS: 15.75**
**SOLVENT DENSITY: 8.16 VOC LE: 3.9 VOC AP: 1.3**
**FLASH POINT: Above 200°F H: 3 F: 1 R: 1 OSHA STORAGE: IIIB**
**TSCA STATUS: In Compliance PHOTO-CHEMICALY REACTIVE: NO**

**226S™** Chromic acid(1.0%*@), Water
**GAL WT: 8.37 WT PCT SOLIDS: 1.01 VOL PCT SOLIDS: 0.38**
**SOLVENT DENSITY: 8.32 VOC LE: 0.0 VOC AP: 0.0**
**FLASH POINT: Above 200°F H: 0 F: 1 R: 0 OSHA STORAGE: IIIB**
**TSCA STATUS: In Compliance PHOTO-CHEMICALY REACTIVE: NO**

**230S™** 3-aminopropyltriethoxysilane, Isopropyl alcohol
**GAL WT: 7.21 WT PCT SOLIDS: 54.78 VOL PCT SOLIDS: 50.23**
**SOLVENT DENSITY: 6.55 VOC LE: 3.3 VOC AP: 3.3**
**FLASH POINT: 20°F to below 73°F H: 3 F: 3 R: 2 OSHA STORAGE: IB**
**TSCA STATUS: In Compliance PHOTO-CHEMICALY REACTIVE: NO**

**244S™** Isopropyl alcohol, Water
**GAL WT: 7.33 WT PCT SOLIDS: 0.75 VOL PCT SOLIDS: 0.34**
**SOLVENT DENSITY: 7.30 VOC LE: 6.5 VOC AP: 3.8**
**FLASH POINT: 20°F to below 73°F H: 2 F: 3 R: 0 OSHA STORAGE: IB**
**TSCA STATUS: In Compliance PHOTO-CHEMICALY REACTIVE: NO**

**5717S™** Ethylene glycol monobutyl ether(15%*), Phosphoric acid, Water
**GAL WT: 9.65 WT PCT SOLIDS: 32.30 VOL PCT SOLIDS: 19.51**
**SOLVENT DENSITY: 8.12 VOC LE: 3.8 VOC AP: 1.5**
**FLASH POINT: 141°F - 200°F H: 3 F: 2 R: 1 OSHA STORAGE: IIIA**
**TSCA STATUS: In Compliance PHOTO-CHEMICALY REACTIVE: NO**

**CF-5717S™** Ethanol, 2-(2-butoxyethoxy)-(5%*@), Ethylene glycol monobutyl ether(14%*), Phosphoric acid, Water
**GAL WT: 9.50 WT PCT SOLIDS: 29.50 VOL PCT SOLIDS: 17.57**
**SOLVENT DENSITY: 8.13 VOC LE: 4.4 VOC AP: 1.8**
**FLASH POINT: 141°F - 200°F H: 3 F: 2 R: 1 OSHA STORAGE: IIIA**
**TSCA STATUS: In Compliance PHOTO-CHEMICALY REACTIVE: NO**

**Footnotes:**
**TSCA: in compliance** = In compliance with TSCA Inventory requirements for commercial purposes.
**ACGIH** = American Conference of Governmental Industrial Hygienists.
**IARC** = International Agency for Research on Cancer.
**NTP** = National Toxicology Program.
**OSHA** = Occupational Safety and Health Administration.
**PNOR** = Particles not otherwise regulated.
**PNOC** = Particles not otherwise classified.
**STEL** = Short term exposure limit.
**TWA** = Time-weighted average.
**TM = Is a Trademark of E.I. DuPont de Nemours Co.**
***** = Section 313 Supplier Notification: These chemicals are subject to the reporting requirements of Section 313 of the Emergency planning and Right-to-Know act of 1986 and of 40 CFR 372.
@ = Listed as a Clean Air Act Hazardous Air Pollutant.
# = EPCRA Section 302 - Extremely hazardous substances.

**Notice:**
The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Product Manager: Refinish Sales
Prepared by: Y. B. Yarbrough