*DTC. **Rust - Direct*** **Liquid Reinforced Coating**

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Technical Information	**DTC. Rust - Direct**

Description:

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DTC. Rust Direct is an one-part polyurethane coating that combines with atmospheric moisture to cure. Upon curing, the coating provides a protective coating of superior adhesion, flexibility and abrasion/impact-resistance. It is resistant to chemical solvents and acid splash. Originally designed for metal surfaces, DTC. Rust Direct demonstrates excellent adhesion to wood, concrete, fiberglass and many other substrates.

DTC Rust Direct is designed for the encapsulation of and adherence to tightly bonded surfaces of lead based and other toxic paints as well as rusted surfaces. This unique ability is accomplished by the curing mechanism of the base polymer. The coating (having a low initial viscosity) "wets" the rusty surface, penetrates to the foundation of the rusts origin where curing begins, and the polymer begins to swell, developing an interlocking network between the pores of the surface and the coating. DTC. **Rust Direct** can be used as a base, and or a finish coat.

DTC Rust Direct Highlights

- No pot life
- No catalyzation
- No two-part mixing
- This coating can substitute for a zinc rich primer
- Requires no commercial white blast
- Can be applied over rusted surfaces after loose scaling materials have been removed
- High Humidity speeds up the cure time.
- Can be power washed with solvent wipe down.
- Can use mechanical power tool equipment.

Application Methods

Surfaces should be clean, dry and sound. Existing surfaces must be free of foreign materials, such as: dirt, oils, grease and other substances that would impede the adhesion properties of the product. Remove all foreign materials by approved methods. TSP-Tri Sodium Phosphate or equivalent. Prior to application of DTC. Rust Direct.

Surfaces to receive the coating must be completely dry. **Important:** Stir product thoroughly before using. DTC. Rust Direct can be applied with a light nap roller, brush, or spray equipment. It should be applied evenly with out build-up to not more than 2-4 mils or 300 to 400 sq. ft. per gallon. After full cure DTC. Rust Direct can be top coated.

Surfaces requiring additional coats must have the second installation applied within four hours of receiving initial application.

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Use mechanical power tool equipment within the guidelines of the Clean Air Act using vacuum to prep lead-based paints. A discussion on this subject was discussed at the Steel Structures Painting Council—SSPC ---meeting attended by EPA and NIOSH.

Features:

USDA approved:	Safe around foods
Dry Time:	90 minutes to touch depending humidity factors.
Properties:	Excellent adhesion to a wide variety of substrates. Attaches into the pores of metal, concrete, and expands to lock in and swell anchoring to the substrate.
Vehicle Type:	Aromatic Polyurethane
Pigment Type:	Aluminum/ Shelf Life: 1 yr. (metallic pigmented)
Salt Spray Corrosion:	2000 hrs. rating
Impact Resistance:	200+ psi. 160 psi.back
Abrasion Resistance:	ASTM(D4060) graded 18 excellent
VOC:	Rating:418 gram/ltr Calfornia EPA
Table of Standards:	maximum allowed is 500

MATERIAL SAFETY DATA SHEET (MSDS)

PRODUCT NAME: DTC-RustDirect™ - High • Build Polyurethane ***PRODUCT ID: SB-101***

SECTION I- Manufacturer Identification

Distributor:		Delta T Control Inc.	
Address:		PO Box 174, Wembley Alberta Canada T0H 3S0	
Phone	(780) 539-5161	Date Printed	10/07/02
Fax	(780) 766-2285	Name of Preparer	L.G.

SECTION II- Hazardous Ingredients (ppm unless noted otherwise)

Chemical Name:	DOT Class:	Chemical Type:	DOT Number:
Polyisocyanate Pre-polymer Solution	Paint Related Material	Aromatic Polyisocyanate.	UN-I 263

SECTION III- Hazardous Ingredients (ppm unless noted otherwise)

Name	CAS Number	%	TLV	PEL
Diphenymethane Disocyanate	26447-40-5	0.62 %	Not established	Not established
MDI Polyisocyanate	Proprietary	33.92%	Not established	Not established
4,4 DiohenylMethane Dissocyanate	101-68-8	9.82%	.02 -Ceiling.(200 mg/m3)	.005-ceiling .051 mg/m3)
Aromatic 100	64741-41-9	30.25%	50.00	50.00

SECTION IV -Physical Data

Appearance:	Medium Viscosity Liquid	**Boiling Point**	313-343^0 F	**Specific Gravity**	1.10
Color	Bright Metallic Silver	**Vapor Pressure**	Less than 10-15 mm/Hg @ 77^0 F	**Bulk Density**	9.12 lbs/gal
Odor	Aromatic	**% Volatile by vol/VOC**	49.9% /3.48 lbs/gal.	**Solubility in H_20**	Insoluble-Reacts liberating CO_2 gas

Section V Fire & Explosion Data

Flash Point F (C): 108 F lowest component
Extinguishing Media: Dry chemical (e.g. mono ammonium phosphate, potassium chloride), carbon dioxide, high expansion (proteinic) chemical fern, water spray for large fires.
Special Fire Fighting Procedures/Unusual Fire or Explosion Hazards: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by fire fighters. During a fire, MDI vapors and other irritating hilly toxic gases may be generated by thermal decomposition or combustion. Closed container may explode when exposed to extreme heat or burst when contaminated with water (C02 evolved).

Section VI... Human Health Data

Primary Route (s) of Exposure: Inhalation, Skin Contact, Eye Contact. Human Effects: Signs and Symptoms of Overexposure:
INHALATION:
Acute Exposure: MDI vapors or mist at concentrations above the suggested TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Pews with a preexisting, nonspecific bronchial hyperactivity can respond to concentrations below the TLV with similar symptoms as well as an asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills) has also been reported.

Chronic Exposure: As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization chemical asthma) which will case them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms which include: chest lightness, wheezing, coup, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air a other irritants This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanates has also been reported to cause lung damage, including decrease in lung function, which may be permanent. Sensitization may be either temporary or permanent.

SKIN CONTACT:

Acute Exposure: Isocyanates react with skin protein and moisture and can cause irritation. Symptoms of skin irritation may be reddening, swelling, rash, scaling, or blistering. Some persons may develop skin sensitization from skin contact. Cured material is difficult to remove.

Chronic Exposure: Prolonged contact can cause reddening, swelling, rash, scaling, or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very mall amounts of liquid material or even as a result of vapor-only expose.

EYE CONTACT:

Acute Exposure. Liquid, aerosols, or vapors of the product ore irritating arid can cause terming, reddening and swelling accompanied by a stinging sensation and maybe a feeling like that of fine dust in the eyes.

Chronic Exposure. None found.

INGESTION:

Acute Exposure:. Can result in irritation and possible corrosive action in the mouth, stomach tissue, and digestive tract

Chronic Exposure. None found.

MEDICAL CONDITIONS:

Aggravated By Exposure Asthma and any other respiratory disorders (bronchitis, emphysema, hyperreactivity), skin allergies, eczema.

CARCINOGENICITY:

NTP: Not Listed **OSHA**- Not Regulated **MAC:** Not Listed **EXPOSURE LIMITS:** Refer to section III

Section VII... Emergency & First Aid Procedures

EYE CONTACT: Flush with clean, lukewarm water (low pressure) for at least 1 5 minutes, occasionally lifting eyelids. Obtain medical attention.

SKIN CONTACT: Remove contaminated clothing. Wash affected areas thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse.

INHALATION: Move to an area free from risk d` further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmaticiype symptoms may develop and may be immediate a delayed up to several hours. Treatment is essentially symptomatic.

INGESTION: DO NOT INDUCE VOMITING! DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Consult physician.

NOTE TO PHYSICIAN: Medical supervision of all employees who handle or come in contact with #IU-6269 is recommended. This should include pre-employment and periodic medical examinations with respiratory function tests (FEE, FMC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or art skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate no further exposure can be permitted.

Section VIII. Employee Protection Recommendations

Precautions must be taken so that persons handling #IU-6269 do not breathe the vapors or have it contact the eyes or skin. In spray mss, protection must be afforded against to both vapor and spray mist.)

EYE PROTECTION: Safety glasses, splash goggles or face shield. Contact lenses should not be worn.

SKIN PROTECTION: Chemical resistant gloves Cover as much of the exposed skin arms as possible with appropriate clothing. If skin creams are used, keep the area protected only by the cream to a minimum

VENTILATION AND RESPIRATORY PROTECTION: Exhaust ventilation sufficient to keep the airborne concentrations of MDT and polyisocyanate below their respective TLVs must be utilized. Exhaust air may need to be cleared by scrubbers or filters to reduce environments contamination In addition a respirator that is recommended or approved for use in isocyanate containing environments (air purifying or fresh air supplied) may be necessary. Consider type of application and environmental concentrations. Observe OSHA regulations for respirator use (29 CF. 1910. 134). In spray applications, when the airborne isocyanate monomer concentrations are known to be below 0.2 ppm AND if the polyisocyanate (polymeric, oligomer concentrations are known to be below 10 mg/m3 a property fitted air-p<aityirg (combination organic vapor and particulate) respirator, proven by test to be effective in isocyanate-containing g spray paint environments, will provide sufficient protection. When the airborne isocyanate concentrations are not known, or if either of the move guidelines is exceeded, or if spraying is performed in a confined space or area with limited ventilation, the use of a positive pressure supplied it respirator is mandatory.

Even during non-spray operations such as mixing, brush or roller application, etc., depending on the conditions (for example, heating of material or application to a hot substrate), it is possible to be exposed to airborne isocyanate vapors. Therefore, when airborne concentrations during such non-spray operations exceed the suggested TLC of 0.02 pprn for isocyanate monomer, but are below 0.2 ppm at least an air purifying (organic vapor) Bator is . If airborne concentrations are unknown, or exceed 0.2 ppm or operations are performed in a confined space, a supplied it respirator must be worn. In addition, if solvents are being used, their concentrations should be considered when determining the selection and use of a respirator.

Section IX... Reactivity Data

Stability: Stable under normal conditions ...unstable if contacted with water.
Polymerization: May occur if in contact with moisture or other materials which react with isocyanates. Nay occur at temperatures over 400 F (204 C). Incompatibility (Materials to Avoid): Water, amines, strong bases, alcohols, metal compounds and surface active materials.
Hazardous Decomposition Products: By high heat and fire: carbon dioxide, carbon monoxide, oxides of nitrogen, traces of HEN, MDT.

Section X... SD1II or Leak Procedures Steps to be Taken in Case Material is Released or Spilled:

Evacuate nonessential personnel. Ventilate the area Dike a impound spilled material and control further spillage if feasible. Notify appropriate authorities if necessary. Cover the spill with sawdust, vermiculite Fuller's earth or other absorbent material. Shovel into suitable, unsealed containers, transport to well-ventilated areas (outside) and treat with neutralizing solution: mixture of water (80%), with Tergitol TMN-10 (20%) or Water (90%), concentrated Ammonia (38%) and detergent (20 %). Add about 10 parts of neutralizer per part isocyanate, with mixing. Allow to stand uncovered for 48 trouts to let 002 escape. Clean up: decontaminate floor with decontamination solution, letting stand for at least 15 minutes.

Cercla (Superfund) Reportable Quantity: None
Waste Disposal Method: Waste must be disposed of in accordance with federal, state, and local environmental control regulations. Incineration is the preferred method. Empty cortainers must be hard wish cane due to product rest. Decontaminate containers pry to disposal.
DO NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.
RCRA Status: Not a listed hues waste under RCRA 40 CFR 261 .20-24). The use and processing of this product or addition of other constituents may cause it to be considered a hazardous waste. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

Section XI Special Precautions & Storage Data

Storage Temperature Min./Max,): 32^0 F /122^0 F (50^0 C) Average Shelf Life: 6 months @ 77^0 F (25^0 C)

Special Sensitivity (Heat, Light, Moisture): If container is exposed to high heat, it can be pressurized and possibly rupture explosively. HID reacts slowly with water to form C02 gas. This gas can cause sealed containers to expand and possibly rupture explosively.
Precautions to be Taken in Handling and Storage. Store in tightly closed containers to prevent moisture contamination, do not reseal if nation is suspected. At maximum storage temperatures noted material may slowly polymerize without hazard. Ideal storage temperature range is 50-81 F (10-27 C). Avoid contact with skin and eyes. Employee education and training in the safe use and haring of this compound are required render the OSHA Hazard Communicati on Standard.

Section XII Shipping Data

DOLT. Shipping Name:	Paint Related Material	UNMA N0:	UN-1263	
Technical Shipping Name:	Polyisocyanate Pre-polymer Coating	DOT. Labels Required:	Flammable Liquid	
DO. T. Hazard Class:	Flammable Liquid	DOT. Placards:	Flammable Liquid	
Freight Class Bulk	55	Freight. Class Pkg.:	PgIII	

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Product Labels

DELTA _T. CONTROL _& COATINGS
Ph : (780) 539-5161
Wembley, Alberta
Box 174 TOM 3S0
Fax: (780) 766-2285
E mall: deltener@ telusplanet.net

Delta T Control & Coatings Inc.

DIRECT TO RUST
HIGH- BUILD- POLYURETHANE COATING

CAUTIONS – WARNINGS

PRODUCT IS SOLVENT BASED AND CONSIDERED FLAMMABLE
FLAMMABLE LIQUID - DOT # UN-1263 LEAD AND CHROMATE FREE

OPERATOR/ APPLICATOR SAFETY PRECAUTIONS
APPLICATOR OF THESE PRODUCTS MUST AT ALL TIMES DURING USE, WEAR A BUREAU OF MINES APPROVED 2 STAGE (CHARCOAL -COTTON). PAINT SPRAY RESPIRATOR DESIGNED FOR REMOVAL OF ORGANIC VAPORS.

OPERATOR / APPLICATOR SAFETY PRECAUTIONS
FRESH AIR SUPPLIED TYPE OF RESPIRATOR IS REQUIRED if PRODUCTS TLC WILL BE EXCEEDED. PROTECTIVE CLOTHING AND EYEWEAR (GOGGLES) ARE RECOMMENDED

APPLICATION

BEFORE APPLYING: STIR AT SLOW SPEED WHEN USING POWER DRILL / PADDLE. DTC RUST DIRECT MUST APPLIED TO A GREASE FREE, DRY SURFACE.

DTC RUST DIRECT CAN BE APPLIED WITH A BRUSH OR STANDARD SPRAY EQUIPMENT.

APPLICATION

APPLY EVENLY WITHOUT A BUILD UP. MULTIPLE COATS RECOMMENDED.
RECOATING WINDOW: ADDITIONAL COATS SHOULD BE APPLIED WITHIN 4 HOURS OF PREVIOUS COAT.

TYPICAL CHARACTERISTICS

PIGMENT TYPE: ALUMINUM
FINISH COLOR: SILVER
SOLIDS BY VOLUME: 50%
WEIGHT PER GALLON: 10. 8 CBS
RECOMMENDED FILM THICKNESS: 4 TO 8 MILS WET (PER COAT) DRY: 2 TO 4 MILS (PER COAT)
COVERAGE: 401 SQ. FT. / GAL @ 2 MILS
VISCOSITY: 65 - 75 SECONDS # 4 FORD
DRY TIME : TO TOUCH: 45 MINUTES
TO RECOAT: AFTER 45 MINUTES AND BEFORE 4 HOURS
DRY HARD: 8 HOURS
CURES BY: MOISTURE CURE
APPLICATION BY: BRUSH J SPRAY EQUIPMENT
GLOSS: LOW ANGULAR SHEEN
VOC : < 3. 5 LBS PER GALLON

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