BURKE INDUSTRIAL COATINGS

TEL: 360-887-8819
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600 S. 74th Place, Suite 108
Ridgefield, WA 98642
www.burkeindustrialcoatings.com

SUPERLIFE 316 DTMR

Product Manual and Specifications

SUPERLIFE-316 DTMR

DESCRIPTION Superlife-316 DTMR is a single package, water reducible, acrylic emulsion pigmented with alloy 316 stainless steel flake. It is non-flammable, low VOC, and offers high corrosion resistance and long term durability. It has superior adhesion and good abrasion resistance.

USES Superlife-316 DTMR, a liquid stainless steel coating that can be used as a direct to metal primer and/or topcoat on properly prepared steel, galvanized steel, tin, aluminum and concrete. It can also be used as a topcoat over primed steel surfaces and most previously painted surfaces in corrosive atmospheres. It has the ability to adhere to metal surfaces with slight contamination of oils or greases. See surface preparation section below.

APPEARANCE Low sheen metallic gray with other metallic colors available.

RECOMMENDED PRIMER Prime Solution 5250 Red / 5253 Gray, Primecoat-767

PHYSICAL PROPERTIES

WEIGHT PER GALLON	9.7 lbs.	
SOLIDS BY WEIGHT	38%	
SOLIDS BY VOLUME	28%	
RECOMMENDED DFT	2.0 mils Dry Film Thickness	
NUMBER OF COATS	2 (4.0 minimum DFT)	
WET FILM TO ACHIEVE DFT (Unthinned material)	7.0 mils	
THEORETICAL COVERAGE.. @ 1 Mil DFT	450 sq. ft./gallon	
PRACTICAL COVERAGE @ RECOMMENDED DFT (Assumes 15% material loss)	200 sq. ft./gallon	
DRY TIMES @ 70°F - 80° F (21°-27°C) AND 50% RH	Tack Free	15-30 minutes
	Handle	1/2-1 hour
	Recoat	1-2 hours
	Fully Cured	7 days (can be accelerated)
DRY HEAT RESISTANCE	400° F	
SHELF LIFE	2 years	
PACKAGING	Gallon, 5 Gallon and 55 Gallon Drum	

SURFACE PREPARATION

GENERAL Quality paint jobs occur with quality preparation, products and application. Quality preparation includes cleaning the surface to be painted to remove all contaminants. Some customers do not have the proper equipment to adequately clean parts to be coated with water base coatings and may only solvent wash parts. For those customers, we have developed Superlife-316 DTMR. Superlife-316 DTMR, in laboratory tests, is able to bite through to surfaces contaminated with motor oil, cutting oils and mineral oils. Steel test plates were coated with oil and wiped with a paper towel to remove excess oil. The test plates were then sprayed with Superlife-316 DTMR air dried for 7 days or heat dried at 160°F for 2 hours. The coating was then tested for adhesion using ASTM D3359 cross hatch adhesion test method and rated 5B or 100% adhesion. While we would always recommend that surfaces be cleaned as well as possible, tests indicate that Superlife-316 DTMR can supply a quality paint job on surfaces with some oil contamination. We recommend you test Superlife-316 DTMR in your process to determine results in your application. Steel surfaces should have rust, grease, dirt, oil or loose paint removed. We recommend washing with BC 4000 Cleaner/degreaser. Solvent wash and wipe would be a second choice. Previously painted surfaces should be blasted or cleaned to remove rust, loose paint, chalk, grease and oil. Rusty steel that cannot be blasted should be wire brushed and primed with BRC-6000 rust conversion primer.

APPLICATION
Apply only when air and surface temperatures are between 50° F and 100° F and surface temperature is at least 5° F above the dew point.

THINNING	
ROLLER/BRUSH -	Fresh Water Thinning is normally not required. Use 5%-10% if needed. (approximately 1/2 pint per gallon)
AIR-ATOMIZED SPRAY - or HVLP	Fresh Water Thinning normally not required. Use 5%-10% if needed (approximately 1/2 pint per gallon).
AIRLESS SPRAY - or AIR ASSISTED AIRLESS	Fresh Water Thinning normally not required, use 5%-10% if needed (approximately 1/2 pint per gallon)
CLEANUP	Fresh Water

EQUIPMENT RECOMMENDATIONS

BRUSH	Use good quality synthetic bristle brush.
ROLLER	Use good quality synthetic roller cover.
AIR ATOMIZED SPRAY	Follow equipment manufacturers nozzle and needle selection recommendation for use with heavy latex paint.
AIRLESS SPRAY	Use .019 to .023 tip at 2000 to 2500 psi.
HOT SPRAY	Recommended temperature 100° F to 120 F.

SAFETY INFORMATION

VOC	1.75 lbs per gallon less water, 210 grams per liter less water.
FLASH POINT	Non-Flammable
USDA	Authorized by USDA for use in federally inspected meat and poultry plants

WARNING Do not take internally. Close containers tightly after use and keep upright. In case of spillage absorb and dispose of in accordance with local applicable regulations.

For specific information refer to the **Material Safety Data Sheet.**

FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN

PRODUCT ORDERING INFORMATION: SUPERLIFE-316 DTMR

Product Number	Size	Wt./Case	Case Quantity
10-0318-01	Gallon	41	4
10-0318-05	5 Gallon	51	1
10-0318-55	55 Gallon	575	1

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Customer Service (800) 348-3245

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: SUPERLIFE 316 DTMR STANDARD GREY **HMIS CODES H F R P**
PRODUCT CODE: 10-0318-XX **1 0 0 B**

SECTION I - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: BURKE INDUSTRIAL COATINGS
ADDRESS: 600 S. 74th Place, Suite 108, Ridgefield, WA 98642

EMERGENCY PHONE: 800) 255-3924 INFORMATION PHONE: (360)887-8819
CHEM-TEL)
EFFECTIVE DATE: 4-9-08 **NAME OF PREPARER: DARRELL BADERTSCHER**

SECTION II - HAZARDOUS INGREDIENTS
SARA III INFORMATION

HAZARDOUS COMPONENTS	CAS NUMBER	OCCUPATIONAL EXPOSURE LIMITS OSHA PEL	ACGIH TLV	OTHER	VAPOR PRESSURE mm HG @ TEMP	WEIGHT PERCENT

NO REPORTABLE QUANTITIES OF HAZARDOUS INGREDIENTS ARE PRESENT

***NO TOXIC CHEMICAL (S) SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III AND OF 40 CFR ARE PRESENT**

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING RANGE: Estimate 212°F **SPECIFIC GRAVITY (H20=1): 1.17**
VAPOR DENSITY: LIGHTER THAN AIR **EVAPORATION RATE: SLOWER THAN ETHER**
COATING V.O.C.: 1.75 LB/GL (210 G/L)
SOLUBILITY IN WATER: SOLUBLE
APPEARANCE AND ODOR: OPAQUE COATING WITH SWEET ODOR

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A **METHOD USED: SETAFLASH**
FLAMMABLE LIMITS IN AIR BY VOLUME- **LOWER: N/A UPPER: N/A**

EXTINGUISHING MEDIA: FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER FOG

SPECIAL FIREFIGHTING PROCEDURES

USE FULL PROTECTIVE EQUIPMENT INCLUDING SELF-CONTAINED BREATHING APPARATUS TO PROTECT FIREFIGHTERS FROM HAZARDOUS COMBUSTION PRODUCTS. WATER MAY BE USED TO COOL CONTAINERS TO PREVENT POSSIBLE EXPLOSION.

UNUSUAL FIRE AND EXPLOSION HAZARDS

CLOSED CONTAINERS MAY EXPLODE DUE TO BUILD UP OF STEAM WHEN EXPOSED TO EXTREME HEAT.

SECTION V - REACTIVITY DATA

STABILITY: STABLE
CONDITIONS TO AVOID N/A

INCOMPATIBILITY (MATERIALS TO AVOID): AVOID STRONG OXIDIZING AGENTS

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: POSSIBLE OXIDES OF CARBON AND NITROGEN

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VI - HEALTH HAZARD DATA

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

INHALATION OF VAPOR OR MIST CAN CAUSE THE FOLLOW: HEADACHE; NAUSEA; IRRITATION OF NOSE, THROAT AND LUNGS.

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE

DIRECT CONTACT WITH MATERIAL CAN CAUSE THE FOLLOWING: SLIGHT IRRITATION.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

PROLONGED OR REPEATED SKIN CONTACT CAN CAUSE THE FOLLOWING: SLIGHT SKIN IRRITATION.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, INGESTION OF EXCESSIVE QUANTITIES MAY CAUSE IRRITATION OF THE DIGESTIVE TRACT.

HEALTH HAZARDS (ACUTE AND CHRONIC)

INGESTION AND SKIN ABSORPTION: NO EVIDENCE OF ADVERSE EFFECTS FROM AVAILABLE INFORMATION. INHALATION: MAY BE IRRITATING TO MUCOUS MEMBRANES, RESPIRATORY TRACT, AND MAY PRODUCE SYMPTOMS OF HEADACHE OR NAUSEA IN POORLY VENTILATED AREAS. PROLONGED SKIN CONTACT MAY CAUSE REDDENING OF THE SKIN. DIRECT EYE CONTACT MAY CAUSE EYE IRRITATION.

CARCINOGENICITY: NTP: NO IARC MONOGRAPHS: NO OSHA REGULATED: NO

THIS MATERIAL HAS NOT BEEN IDENTIFIED AS A CARCINOGEN BY NTP, IARC OR OSHA.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

PRE-EXISTING LUNG DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL.

EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING: NO HARMFUL EFFECTS EXPECTED. INHALATION: NO EMERGENCY CARE ANTICIPATED. EYES AND SKIN: IMMEDIATELY FLUSH EYES WITH WATER UNTIL WATER IS NO LONGER CLOUDY. WASH SKIN WITH SOAP AND WATER UNTIL WATER IS NO LONGER CLOUDY. IF CLOTHING IS SOAKED, REMOVE AND WASH BEFORE REUSE. TOXICOLOGY STUDIES OF SIMILAR MATERIALS HAVE SHOWN VERY LOW ACUTE TOXICITY. THERE IS NO SPECIFIC ANTIDOTE. TREATMENT OF OVER EXPOSURE SHOULD BE DIRECTED AT THE CONTROL OF SYMPTOMS AND THE CLINICAL CONDITION.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

RESTRICT AREA TO ONLY THOSE PERSONNEL NEEDED. MAJOR SPILLS SHOULD BE COLLECTED FOR DISPOSAL. MINOR SPILLS MAY BE FLUSHED INTO SEWER IF PERMITTED BY STATE, FEDERAL AND LOCAL REGULATIONS.

WASTE DISPOSAL METHOD

INCINERATE OR BURY IN SUITABLE LANDFILL WHERE PERMITTED BY APPROPRIATE GOVERNMENT REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

KEEP CONTAINERS COOL AND DRY. USE AND STORE THIS PRODUCT WITH ADEQUATE VENTILATION. KEEP PRODUCT CONTAINERS CLOSED WHEN NOT IN USE. AVOID SUBJECTING THIS PRODUCT TO EXTREME TEMPERATURE VARIATIONS AND FREEZING.

OTHER PRECAUTIONS

DO NOT STORE BELOW 40 DEGREES FAHRENHEIT.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION

RESPIRATORY PROTECTION MAY BE NECESSARY TO MINIMIZE EXPOSURE TO VAPORS DEPENDING ON THE NATURE AND CONCENTRATION OF THE AIRBORNE MATERIAL. USE A RESPIRATOR WITH APPROPRIATE FILTERS AND CARTRIDGES (NIOSH APPROVED IF AVAILABLE) OR SUPPLIED AIR EQUIPMENT.

VENTILATION

IF CURRENT VENTILATION PRACTICES ARE NOT ADEQUATE TO MINIMIZE EXPOSURE, ADDITIONAL VENTILATION OR EXHAUST SYSTEMS MAY BE REQUIRED.

PROTECTIVE GLOVES

USE GLOVES MADE OF NEOPRENE, BUTYL RUBBER OF NATURAL RUBBER.

EYE PROTECTION

USE CHEMICAL SPLASH GOGGLES.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

IT IS SUGGESTED THAT A SOURCE OF CLEAN WATER BE AVAILABLE IN THE WORK AREA FOR FLUSHING EYES AND SKIN. IMPERVIOUS CLOTHING SHOULD BE WORN AS NEEDED.

WORK/HYGIENIC PRACTICES

AFTER USING THIS PRODUCT WASH HANDS THOROUGHLY PRIOR TO EATING OR SMOKING.

SECTION IX – TOXICOLOGICAL INFORMATION

Acute Data

No toxicity data is available for this material. Based on the toxicity profiles for a number of other emulsions that are compositionally similar to this product, typical data might be:

Oral LD50 – rat: > 5000mg/kg
Dermal LD50 – rabbit: >5000mg'kg
Skin Irritation – rabbit: mild irritation
Eye Irritation – rabbit: mild irritation

SECTION X – ECOLOGICAL INFORMATION

No applicable data

SECTION XI - DISPOSAL CONSIDERATIONS

Keep spills and cleaning runoff out of drains. Dried material may be landfilled or incinerated. Wet material should be absorbed with absorbent material and landfilled or incinerated.

SECTION XII – TRANSPORT INFORMATION

DOT
Not regulated for transport

IMO/IMDG
Not regulated – not dangerous for transport

SECTION XIII – REGULATORY INFORMATION

Workplace classification

This product is considered non-hazardous under the OSHA Hazard Communication Standard (29CFR1910.1200).

This product is not a "controlled product" under the Canadian Workplace Hazardous Materials Information System (WHMIS).

SARA TITLE III: Section 311/312 – not covered

SARA TITLE III: Section 313 – does not contain a chemical lised in Section 313.

CERCLA Information – Releases of this material to air, land or water are not reportable to National Repsonse or local or state emergency personnel.

TSCA – All components of this product are in compliance with the inventory listing requirements of the US Toxic Substance Control Act Chemical Substance Inventory.

SECTION XIV – DISCLAIMER

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH BURKE INDUSTRIAL COATINGS OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE AND SUITABLE TO THEIR CIRCUMSTANCES. TO OUR KNOWLEDGE, THIS MSDS COMPLIES WITH 29 CFR 1910, 1200.

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Superlife-316 DTMR

BACKGROUND

Burke Industrial Coatings has manufactured water base stainless steel filled coatings since 1963. Our largest selling product at this writing is our Superlife-316 DTMR, which is used extensively by OEM's in the production of packaging and processing equipment. Superlife-316 DTMR is a single component, stainless steel filled, fast dry coating. It can be used direct to metal in applications where the product painted is going into a non-critical or dry atmosphere. If used in severe duty applications, we recommend the use of a primer before coating with DTMR. Superlife-316 DTMR has the ability to bite through some light grease or oil contaminants that may be on the surface, but, as always, we recommend thorough cleaning of the parts to be painted.

DTMR is an offshoot of our Superlife-316® which has been used in industrial applications since 1965. The more we sold to OEM customers, the more the need for a faster drying, quicker curing product became evident. OEM customers were looking for a water base, stainless steel coating that would withstand assembly or packing for shipment within minutes after painting. Since Superlife-316® is a fairly slow drying product and takes up to 10 days to fully cure, we began to look for component ingredients that would still give us the excellent exterior durability of Superlife-316® but with faster dry and quicker cure. The resultant product, DTMR, dries to touch in 15 to 20 minutes and reaches 90% of it full cure within 8 to 12 hours. Accelerated weathering tests indicate that the DTMR will also give exterior performance equal to or better than the original Superlife-316.

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Superlife 316 DTMR

FEATURES	BENEFITS
Water Base	**Thins with and cleans up with water** **No expensive solvent to buy** **No expensive solvent disposal** **Worker safe – little or no odor** **Minimal environmental impact** **No expensive safety gear required** **Can be applied to damp surfaces**
Stainless Steel Pigment	**Protects against chemical attack** **Inert to ultra-violet radiation** **Will not chalk** **Excellent in wash down areas** **Less costly than stainless steel metal** **Excellent in extreme weather conditions** **Exceptional resistance to fade and loss of gloss** **Hides surface imperfections**
Special Acrylic Resin	**Fast dry** **Excellent hardness** **Extremely flexible** **Long term exterior durability** **Better abrasion resistance** **Easy spray application** **Excellent adhesion**
Non-Flammable	**Reduces fire danger** **Lowers insurance premiums** **No special storage requirements** **No hazardous shipping issues**
USDA/FDA Accepted	**Meets standards for incidental contact**
Low VOC	**Meets Clean Air regulations** **Reduces government paper work**
Single Component	**No mixing of multiple components** **Reduces preparation time** **No lost product due to short pot life** **No mixing errors**

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Superlife 316 DTMR

MARKETS & APPLICATIONS

OEM:
Food packaging equipment
Food processing equipment
Medical equipment
Power transmission equipment (motor/gear box)
Conveying equipment
Palletizers and de-palletizers
Robotic equipment
Semi bulk and dry powder equipment
Blowers / fans
Dryers
Freezers
Heat exchangers
HVAC equipment
Labelers
Motors
Pumps
Tanks
Valves

Chemical:
Tanks
Ladders
Decking
Piping
Pumps
Valves

Power / CoGen:
Transmission towers
Sub-station equipment
Transformers

General:
City/County/State
Parks – gates, fencing, maintenance equipment, play equipment
Utility – light poles, transformers, electrical boxes
Transportation – sign posts, guard rails, bridges
Schools – fencing, metal bleachers, roof ventilation equipment
Plant maintenance
Equipment maintenance

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Superlife 316 DTMR

PRODUCT STRATEGY AND BACKGROUND

Superlife-316 DTMR was designed for OEM customers looking for a fast dry, water base coating containing 316L grade stainless steel flake. With the added benefits of excellent adhesion to slightly contaminated surfaces and the ability to go direct to metal it has become the favorite stainless coating that we make.

While not every OEM is interested in stainless steel coatings, those that want to separate themselves from their competition by adding the "value" of a stainless steel coated piece of equipment will typically choose the DTMR because of its fast dry and easy application properties. Those OEM customers that offer both stainless equipment as well as conventionally coated equipment, will often see the merit in adding a third line – a stainless steel coated line of equipment.

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SUPERLIFE-316 DTMR

SPECIFICATIONS

Impact Resistance	**ASTM D2794-93: 160"# Direct, 160"# Reverse**
Cross Hatch Adhesion	**ASTM D3359, Method B. Rates 5B on steel and aluminum**
Pull Off Adhesion	**ASTM D 4541 and ISO 4624, 860 psi direct to metal**
Pencil Hardness	**ASTM D3363: H**
Mandrel Bend	**ASTM D522, Method B: Pass 1/8" Bend**
Sag Resistance	**ASTM D4400: No sag at 12 mils**
Cleaning/Thinning Solvent	**Water**
Weathering	**ASTM D3051: No loss of gloss, blisters or corrosion after 1500 hours**
Humidity**	**ASTM D4585: No blisters after 1000 hours**
Salt Spray**	**ASTM B-117: 1500 Hours, no blisters, no undercut**
Temperature Range	**Cured: – 40°F to 400°F**
Odor	**Little to none**
VOC Content	**140 g/l or 1.17 #/gal**

**Tested over Primecoat-767

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Burke Systems 2008

LIGHT DUTY SERVICE – dry duty, no washdown, no exterior exposure
Stainless Steel
1 coat Steel Tuff-316® or 1 coat Superlife-316 DTMR
Colors
1 coat Topcoat-1010

MEDIUM DUTY SERVICE – some moisture and exterior exposure, light chemical exposure
Stainless Steel
1 coat Prime Solution 5250 red or 5253 grey
1 coat Steel Tuff-316®
Colors
1 coat Prime Solution 5250 red or 5253 grey
1 coat Topcoat-1010

HEAVY DUTY SERVICE – chemical exposure, wet, humid atmosphere, normal food plant wash down
Stainless Steel
1 coat Steel Plus Epoxy Primer
1 coat Steel Plus 316
Optional: 1 coat Steel Plus CE Series Clear Epoxy
Colors
1 coat Steel Plus Epoxy Primer
I coat Steel Plus Epoxy Enamel
Optional: 1 coat Steel Plus CE Series Clear Epoxy

SEVERE DUTY SERVICE – heavy chemical exposure, wash down in a meat or poultry plant, very wet environments
Stainless Steel
1 coat Steel Plus Epoxy Primer
1 coat Steel Plus CE Series-316 Epoxy
1 coat Steel Plus CE Series Clear Epoxy
Colors
1 coat Steel Plus Epoxy Primer
1 coat Steel Plus CE Series Enamel Epoxy
1 coat Steel Plus CE Series Clear Epoxy

The information provided is a suggested guide in determining a coating system using BIC products. Individual situations and chemicals present may require you to test to yield the appropriate combination of product finishes to obtain the results desired.