ENNIS-FLINT
A Traffic Safety Solutions Company

APPLICATION GUIDELINES - THERMOPLASTIC PAVEMENT MARKINGS

Temperature

Both the pavement surface and ambient air temperature must be at least 50° F and rising prior to striping, although 55 to 60F and rising is preferred for optimum adhesion and bead retention. This should be checked at least hourly when weather conditions cause temperatures to drop during the course of the striping operation. Thermoplastic should never be heated over a maximum of 450° F. During normal use (70-90F surface and air), we recommend thermoplastic to be applied in the 400-425° F range. This range can be moved down when striping on hot surfaces (over 110F) or moved up to 450F maximum when striping on cold surfaces. A simple adhesion test must be done to prove adequate adhesion if using an alternate application range. Note when striping on very hot, sunny days, the thermoplastic will take longer to cool to a no track condition.

Surface preparation

All surfaces must be dry, free of any loose debris and at the proper temperature prior to striping. Even though the surface may appear dry, it is best to check for sub-surface moisture to improve bond and minimize moisture pops. Check by taping a one foot square piece of clear plastic down on the roadway and observe for 30 minutes see if moisture forms. One can also check by pouring some hot thermoplastic onto a piece of tar paper which is on top of the surface to be striped. Wait 5 minutes, and see if moisture was drawn up onto the road surface under the tar paper. If moisture appears by either of these methods, we recommend you do not apply thermoplastic. When in doubt, always check adhesion. Additional prep for the surface indicated below is as follows:

Existing striped asphalt or concrete roadways – Although not advisable, thermoplastic can be applied over most existing paint and thermoplastic striping material. The adhesion will only be as good as that of the existing stripe. The heat of application may cause tapes and multiple coats of old paint to lift off the surface. Older surfaces with exposed or polished aggregate may require hotter material temperatures, mechanical abrasion to roughen the surface and/or primer to allow better bonding to the road surface. Use primer as manufacturer's recommendation or in the 2-3 dry mils range. Traffic should not drive on primer before application of thermoplastic.

New or not previously striped concrete roadways - Concrete should be allowed to cure at least 14 days, and may need to be mechanically abraded to remove any curing compounds, surface spalling or polishing if it proves detrimental to adhesion. Primer as described above may be necessary to improve bond.

New asphalt roadways - Although thermoplastic may be installed sooner (once the mat cools below 100 F), it is recommended that new asphalt surfaces not be striped until all construction is completed (paving, shoulder work, etc.) and the pavement has had several days to age. This allows any oils, roller aides, or other "liquid" surface coatings to be tracked off the surface (thus assuring a better bond, giving a longer lasting line), as well as allows the asphalt to cure and develop cohesive strength. Waiting also helps prevent any of these oils, dirt, etc. from being tracked or deposited onto the thermoplastic and yielding a "dirty" looking stripe. As interim delineation and depending on time lapse between interim installation and application of the thermoplastic, 7-10 wet mils of water borne traffic paint, with beads reduced accordingly, can be used behind the paver. Please note that in cases where alternate mix designs and water emulsions are used for "asphalt", it may be necessary to wait longer or lightly abrade the new asphalt surface prior to thermoplastic installation if the composition of the asphalt causes adhesion problems. Use of primer on new asphalt is not recommended as the primer may cause adhesion problems between the fresh asphalt and thermoplastic. When in doubt, always test adhesion.

Safety Data Sheet

according to OSHA Hazard Communication
29 CFR Part 1910.1200

according to Regulation (EC)
No. 1907/2006 Article 31

Section 1. Identification

Product Code: 884490

Product Name: TM WHT ALK NJ/AA EXTRD

Product Type: Thermoplastic

Recommended Use: Traffic Markings

Supplied by:
Ennis-Flint
A Traffic Safety Solutions Company
115 Todd Court
Thomasville, NC 27360
T: 800.331.8118 (For Technical Inquiries)

Emergency Telephone: Chemtrec 1-800-424-9300

Section 2. Hazard(s) identification

EMERGENCY OVERVIEW: This product contains a component suspected of causing cancer. However, it is in a non-respirable form and inhalation is unlike to occur from exposure. This classification is relevant when exposed to dust or powder form only (e.g. sanding, grinding).

Classification

Symbol(s) of Product

Signal Word
Warning

GHS Named Chemicals On Label
Titanium Dioxide

GHS HAZARD STATEMENTS

Carcinogenicity, category 2	H351	Suspected of causing cancer.

GHS PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P281	Use personal protective equipment as required.
P308+P313	IF exposed or concerned: Get medical advice/attention.

Section 3. Composition/Information on ingredients

Chemical Name	CAS-No.	Wt. %	GHS Symbols	GHS Statements
Titanium Dioxide	13463-67-7	2.5-10	GHS08	H351

Phosphorous Pentoxide	1314-56-3	0.1-1.0	GHS05-GHS06	H314-330

Chemical Name	CAS-No.	EINECS No.	REACH Reg No.	M-Factors
Titanium Dioxide	13463-67-7	236-675-5	not available	0
Phosphorous Pentoxide	1314-56-3	215-236-1	not available	0

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

Section 4. First-aid measures

FIRST AID - INHALATION: Move to fresh air. Consult a physician if symptoms persist.

FIRST AID - SKIN CONTACT: In case of BURNS, remove patient from heat source. Immediately cool affected skin for as long as possible with cold water. Remove smoldering clothing, including shoes, boots and jewelry unless adhering to skin. Do not remove clothing if adhering to skin. Do not attempt to remove the molten thermoplastic from the skin. Removal could result in severe tissue damage. Cover patient with dry clean sheet. Conduct primary survey. If indicated, transport patient to emergency treatment facility. Wash affected area immediately with soap and plenty of water. Remove contaminated clothing and launder before reuse. Consult a physician if symptoms persist.

FIRST AID - EYE CONTACT: Contact with molten materials requires immediate medical assistance. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician if symptoms persist.

FIRST AID - INGESTION: Do NOT induce vomiting. If conscious, rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.

Section 5. Fire-fighting measures

UNUSUAL FIRE AND EXPLOSION HAZARDS: None expected.

SPECIAL FIREFIGHTING PROCEDURES: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

EXTINGUISHING MEDIA: Alcohol Foam, Carbon Dioxide, Dry Chemical, Foam, Water Fog

Section 6. Accidental release measures

ENVIRONMENTAL PRECAUTIONS: Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Use personal protective equipment. Ensure adequate ventilation. Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up mechanically. Keep in suitable and closed containers for disposal. Avoid dust formation. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

Section 7. Handling and storage

HANDLING: Ensure adequate ventilation. Avoid breathing vapor, mists or dust. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Observe good industrial hygiene practices. Avoid dust formation. Fine dust dispersed in air may ignite. Do not reheat product packaged in light metal containers. The light metal containers will not safely support the movement or transfer of the product in a hot, molten form. Do not heat over 260°C/500°F in a closed container. This product when heated to above 260°C/500°F can lead to flashing. Appropriate protective equipment must be worn when mixing and applying this product. Keep away from heat and sources of ignition. The thermoplastic bag can be hazardous when empty, because it can retain product residue. Therefore do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur. Always obey hazard warnings and handle containers as if they were full. The meltable bag is compatible with the thermoplastic allowing them to melt and become part of the hot melt mixture at application temperature.

STORAGE: Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers.

Section 8. Exposure controls/personal protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Titanium Dioxide	10 mg/m3		15 mg/m3	

Name	Percentage	VME mg/m3	VME ppm	OEL Nota
Titanium Dioxide	2.5-10	10	0	15 mg/m3

Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation Sk = Skin Sensitizer N.E. = Not Established

Personal Protection

RESPIRATORY PROTECTION: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

SKIN PROTECTION: Protective gloves/clothing. Use of long sleeved shirts is required when handling molten material.

EYE PROTECTION: Safety glasses with side-shields. Use of a faceshield is recommended when handling molten material.

OTHER PROTECTIVE EQUIPMENT: Eyewash stations, safety showers, ventilation systems.

HYGIENIC PRACTICES: When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

Section 9. Physical and chemical properties

Appearance:	white	**Physical State:**	Solid
Odor:	Odorless	**Odor Threshold:**	Not Established
Density, g/cm3:	2.097	**pH:**	NI
Freeze Point, °C:	NI	**Viscosity:**	NI
Solubility in Water:	Not soluble	**Partition Coefficient, n-octanol/ water:**	NI
Decompostion Temp., °C:	NI		
Boiling Point, °C:	N.I.	**Explosive Limits, vol%:**	N.I.
Combustibility:	Does not Support Combustion	**Flash Point, °C:**	>260
Evaporation Rate:	Slower than Diethyl Ether	**Auto-ignition Temp., °C:**	NI
Vapor Density:	Heavier than air	**Vapor Pressure:**	NI

(See "Other information" Section for abbreviation legend)

Section 10. Stability and reactivity

STABILITY: Stable under recommended storage conditions.

CONDITIONS TO AVOID: Dust formation. Dust may form explosive mixture in air. Heat, flames and sparks.

INCOMPATIBILITY: None known based on information supplied.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides. Nitrogen oxides.

HAZARDOUS POLYMERIZATION: Hazardous polymerisation does not occur.

Section 11. Toxicological information

Practical Experiences

EFFECT OF OVEREXPOSURE - INHALATION: Inhalation of dust in high concentration may cause irritation of respiratory system. In molten state, the material does not give off fumes that are toxic or injurious to persons or property. However, excessive inhalation of vapors in molten state can cause nose and throat irritation, may cause nervous system depression characterized by headache, dizziness, nausea, staggering gait, confusion and unconsciousness.

EFFECT OF OVEREXPOSURE - SKIN CONTACT: Direct skin contact may cause irritation. The molten product can cause serious burns.

EFFECT OF OVEREXPOSURE - EYE CONTACT: Direct eye contact may cause irritation. The molten product can cause serious burns.

EFFECT OF OVEREXPOSURE - INGESTION: Ingestion may cause irritation to mucous membranes.

EFFECT OF OVEREXPOSURE - CHRONIC HAZARDS: This product contains titanium dioxide in a non-respirable form. Inhalation of titanium dioxide is unlikely to occur from exposure to this product.

Acute Toxicity Values

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Name according to EEC	Oral LD50	Dermal LD50	Gas LC50
13463-67-7	Titanium Dioxide	> 10000 mg/kg rat	> 10000 mg/kg rabbit	>20001 ppm

N.I. - No Information

Section 12. Ecological information

ECOLOGICAL INFORMATION: The environmental impact of this product has not been fully investigated.

Further Ecological Information

Contains the following ingredients which are classified as water dangerous according to EEC directive No. 76/464/EEC in percentages > 1%.

CAS-No.	Name according to EEC	Bio. Conc. Factor (BCF)	Octanol-water par. Coeff (KOW)
13463-67-7	Titanium Dioxide	not available	not available

Section 13. Disposal considerations

Product

DISPOSAL METHOD: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). Dispose of contents/ container in accordance with the local/regional/national/international regulations. Do not re-use empty containers.

European Waste Code: **080201 waste coating powder**

Uncleaned Packaging

European Waste Code: **150110 packaging dangerous residuals**

Section 14. Transport information

SPECIAL TRANSPORT PRECAUTIONS: When in use, this product is elevated temperature liquid, n.o.s. (compound pavement marking), UN3257, Hazard Class 9, Packing Group III.

Road Transport

UN Number:	Not regulated
ADR/RID Class:	Not regulated
Packing Group:	No Information
Shipping Name:	Not regulated
Primary Shipping Hazard:	No Information
Road Tunnel Transport Code:	Not regulated

Sea Transport

UN Number:	Not regulated
IMDG/GGVSee Class:	Not regulated
EmS-No:	Not regulated
Packing Group:	No Information
Shipping Name:	Not regulated
Primary Shipping Hazard:	No Information
Marine Pollutant:	Not A Marine Pollutant
Shipping Hazard(Marine Pollutant):	No Information

Air Transport

UN Number:	Not regulated
ICAO/IATA Class:	Not regulated
Packing Group:	No Information
Shipping Name:	Not regulated
Primary Shipping Hazard:	No Information

Section 15. Regulatory information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Acute Health Hazard, Chronic Health Hazard

SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

TOXIC SUBSTANCES CONTROL ACT:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

Chemical Name	CAS-No.
Titanium Dioxide	13463-67-7
Silicon dioxide, amorphous	7631-86-9
Phosphorous Pentoxide	1314-56-3

U.S. State Regulations:

NEW JERSEY RIGHT-TO-KNOW:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS-No.
Calcium Carbonate	1317-65-3
Silicon Dioxide	99439-28-8
Maleic Modified Rosin Resin	8050-28-0

PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS-No.
Calcium Carbonate	1317-65-3
Silicon Dioxide	99439-28-8
Pentaerythritol Ester of Rosin	8050-26-8
Maleic Modified Rosin Resin	8050-28-0

CALIFORNIA PROPOSITION 65 CARCINOGENS

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

Chemical Name	CAS-No.
Titanium Dioxide	13463-67-7

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

No Proposition 65 Reproductive Toxins exist in this product.

International Regulations: As follows -

CANADIAN WHMIS:

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

WHMIS Class: D2A, D2B

Denmark

B-Value: 0.000000

France

Storage Conditions: No Information

Professional Illness Table:

CAS Number	Chemical Name	Professional Illness
13463-67-7	Titanium Dioxide	not available

Germany

VbF-Class: No Information

WGK-class: 0

Remarks:
WGK 0 = in general not a water pollutant
WGK 1 = weak water pollutant
WGK 2 = water pollutant
WGK 3 = severe water pollutant

Processing restrictions:*

Incident Regulation:
No Information

Spain

Storage Conditions: No Information

Switzerland

VOC-Value: 0.00

United Kingdom

Storage Conditions: No Information

Section 16. Other information, including date of preparation of the last revision

Revision Date: 3/13/2016 **Supercedes Date:** 3/8/2016

Reason for revision: No Information

Datasheet produced by: Regulatory Department

HMIS Ratings:

Health:	1	Flammability:	1	Reactivity:	0	Personal Protection:	X

NFPA Ratings:

Health:	1	Flammability:	1	Reactivity:	0	Hazards:	N.I.

Volatile Organic Compounds, gr/ltr: 0

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.
H351	Suspected of causing cancer.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS05

GHS06

GHS08

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined, N.I. - No Information

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product where instructions and recommendations are not followed. Any use of the product not in conformance with this SDS or in combination with any other product or process is the responsibility of the user.

Safety Data Sheet

according to OSHA Hazard Communication
29 CFR Part 1910.1200

according to Regulation (EC)
No. 1907/2006 Article 31

Section 1. Identification

Product Code: 884685

Product Name: TM LF YEL ALK MI/AA EXTRD

Product Type: Thermoplastic

Recommended Use: Traffic Markings

Supplied by:
Ennis-Flint
A Traffic Safety Solutions Company
115 Todd Court
Thomasville, NC 27360
T: 800.331.8118 (For Technical Inquiries)

Emergency Telephone: Chemtrec 1-800-424-9300

Section 2. Hazard(s) identification

EMERGENCY OVERVIEW: This product contains a component suspected of causing cancer. However, it is in a non-respirable form and inhalation is unlike to occur from exposure. This classification is relevant when exposed to dust or powder form only (e.g. sanding, grinding).

Classification

Symbol(s) of Product

No GHS Symbols Exist

Signal Word

GHS Named Chemicals On Label
No GHS Named Chemicals exist in this product

Section 3. Composition/Information on ingredients

Chemical Name	CAS-No.	Wt. %	GHS Symbols	GHS Statements
Titanium Dioxide	13463-67-7	0.1-1.0	GHS08	H351

Chemical Name	CAS-No.	EINECS No.	REACH Reg No.	M-Factors
Titanium Dioxide	13463-67-7	236-675-5	not available	0

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

Section 4. First-aid measures

FIRST AID - INHALATION: Move to fresh air. Consult a physician if symptoms persist.

FIRST AID - SKIN CONTACT: In case of BURNS, remove patient from heat source. Immediately cool affected skin for as long as possible with cold water. Remove smoldering clothing, including shoes, boots and jewelry unless adhering to skin. Do not remove clothing if adhering to skin. Do not attempt to remove the molten thermoplastic from the skin. Removal could result in severe tissue damage. Cover patient with dry clean sheet. Conduct primary survey. If indicated, transport patient to emergency treatment facility. Wash affected area immediately with soap and plenty of water. Remove contaminated clothing and launder before reuse. Consult a physician if symptoms persist.

FIRST AID - EYE CONTACT: Contact with molten materials requires immediate medical assistance. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician if symptoms persist.

FIRST AID - INGESTION: Do NOT induce vomiting. If conscious, rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.

Section 5. Fire-fighting measures

UNUSUAL FIRE AND EXPLOSION HAZARDS: None expected.

SPECIAL FIREFIGHTING PROCEDURES: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

EXTINGUISHING MEDIA: Alcohol Foam, Carbon Dioxide, Dry Chemical, Water Fog

Section 6. Accidental release measures

ENVIRONMENTAL PRECAUTIONS: Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Use personal protective equipment. Ensure adequate ventilation. Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up mechanically. Keep in suitable and closed containers for disposal. Avoid dust formation. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

Section 7. Handling and storage

HANDLING: Ensure adequate ventilation. Avoid breathing vapor, mists or dust. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Observe good industrial hygiene practices. Avoid dust formation. Fine dust dispersed in air may ignite. Do not reheat product packaged in light metal containers. The light metal containers will not safely support the movement or transfer of the product in a hot, molten form. Do not heat over 260°C/500°F in a closed container. This product when heated to above 260°C/500°F can lead to flashing. Appropriate protective equipment must be worn when mixing and applying this product. Keep away from heat and sources of ignition. The thermoplastic bag can be hazardous when empty, because it can retain product residue. Therefore do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur. Always obey hazard warnings and handle containers as if they were full. The meltable bag is compatible with the thermoplastic allowing them to melt and become part of the hot melt mixture at application temperature.

STORAGE: Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers.

Section 8. Exposure controls/personal protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Titanium Dioxide	10 mg/m3		15 mg/m3	

Name	Percentage	VME mg/m3	VME ppm	OEL Nota
Titanium Dioxide	< 1.0	10	0	15 mg/m3

Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation Sk = Skin Sensitizer N.E. = Not Established

Personal Protection

RESPIRATORY PROTECTION: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

SKIN PROTECTION: Protective gloves/clothing. Use of long sleeved shirts is required when handling molten material.

EYE PROTECTION: Safety glasses with side-shields. Use of a faceshield is recommended when handling molten material.

OTHER PROTECTIVE EQUIPMENT: Eyewash stations, safety showers, ventilation systems.

HYGIENIC PRACTICES: When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

Section 9. Physical and chemical properties

Appearance:	yellow	**Physical State:**	Solid
Odor:	Odorless	**Odor Threshold:**	Not Established
Density, g/cm3:	2.050	**pH:**	NI
Freeze Point, °C:	NI	**Viscosity:**	NI
Solubility in Water:	Not soluble	**Partition Coefficient, n-octanol/ water:**	NI
Decompostion Temp., °C:	NI		
Boiling Point, °C:	N.I.	**Explosive Limits, vol%:**	N.I.
Combustibility:	Does not Support Combustion	**Flash Point, °C:**	>260
Evaporation Rate:	Slower than Diethyl Ether	**Auto-ignition Temp., °C:**	NI
Vapor Density:	Heavier than air	**Vapor Pressure:**	NI

(See "Other information" Section for abbreviation legend)

Section 10. Stability and reactivity

STABILITY: Stable under recommended storage conditions.

CONDITIONS TO AVOID: Dust formation. Dust may form explosive mixture in air. Heat, flames and sparks.

INCOMPATIBILITY: None known based on information supplied.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides. Nitrogen oxides.

HAZARDOUS POLYMERIZATION: Hazardous polymerisation does not occur.

Section 11. Toxicological information

Practical Experiences

EFFECT OF OVEREXPOSURE - INHALATION: Inhalation of dust in high concentration may cause irritation of respiratory system. In molten state, the material does not give off fumes that are toxic or injurious to persons or property. However, excessive inhalation of vapors in molten state can cause nose and throat irritation, may cause nervous system depression characterized by headache,

dizziness, nausea, staggering gait, confusion and unconsciousness.

EFFECT OF OVEREXPOSURE - SKIN CONTACT: Direct skin contact may cause irritation. The molten product can cause serious burns.

EFFECT OF OVEREXPOSURE - EYE CONTACT: Direct eye contact may cause irritation. The molten product can cause serious burns.

EFFECT OF OVEREXPOSURE - INGESTION: Ingestion may cause irritation to mucous membranes.

EFFECT OF OVEREXPOSURE - CHRONIC HAZARDS: This product contains titanium dioxide in a non-respirable form. Inhalation of titanium dioxide is unlikely to occur from exposure to this product.

Acute Toxicity Values
The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Name according to EEC	Oral LD50	Dermal LD50	Gas LC50
13463-67-7	Titanium Dioxide	> 10000 mg/kg rat	> 10000 mg/kg rabbit	>20001 ppm

N.I. - No Information

Section 12. Ecological information

ECOLOGICAL INFORMATION: The environmental impact of this product has not been fully investigated.

Further Ecological Information
Contains the following ingredients which are classified as water dangerous according to EEC directive No. 76/464/EEC in percentages > 1%.

CAS-No.	Name according to EEC	Bio. Conc. Factor (BCF)	Octanol-water par. Coeff (KOW)
13463-67-7	Titanium Dioxide	not available	not available

Section 13. Disposal considerations

Product

DISPOSAL METHOD: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). Dispose of contents/ container in accordance with the local/regional/national/international regulations. Do not re-use empty containers.

European Waste Code: **080201 waste coating powder**

Uncleaned Packaging

European Waste Code: **150110 packaging dangerous residuals**

Section 14. Transport information

SPECIAL TRANSPORT PRECAUTIONS: When in use, this product is elevated temperature liquid, n.o.s. (compound pavement marking), UN3257, Hazard Class 9, Packing Group III.

Road Transport

UN Number:	Not regulated
ADR/RID Class:	Not regulated
Packing Group:	No Information
Shipping Name:	Not regulated
Primary Shipping Hazard:	No Information
Road Tunnel Transport Code:	Not regulated

Sea Transport

UN Number:	Not regulated
IMDG/GGVSee Class:	Not regulated
EmS-No:	Not regulated
Packing Group:	No Information
Shipping Name:	Not regulated
Primary Shipping Hazard:	No Information
Marine Pollutant:	Not A Marine Pollutant
Shipping Hazard(Marine Pollutant):	No Information

Air Transport

UN Number:	Not regulated
ICAO/IATA Class:	Not regulated
Packing Group:	No Information
Shipping Name:	Not regulated
Primary Shipping Hazard:	No Information

Section 15. Regulatory information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Acute Health Hazard, Chronic Health Hazard

SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

TOXIC SUBSTANCES CONTROL ACT:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

Chemical Name	CAS-No.
Titanium Dioxide	13463-67-7
Silicon dioxide, amorphous	7631-86-9

U.S. State Regulations:

NEW JERSEY RIGHT-TO-KNOW:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS-No.
Calcium Carbonate	1317-65-3
Silicon Dioxide	99439-28-8
Maleic Modified Rosin Resin	8050-28-0
Pentaerythritol Ester of Rosin	8050-26-8

PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS-No.
Calcium Carbonate	1317-65-3
Silicon Dioxide	99439-28-8
Maleic Modified Rosin Resin	8050-28-0
Pentaerythritol Ester of Rosin	8050-26-8

CALIFORNIA PROPOSITION 65 CARCINOGENS

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

Chemical Name	CAS-No.
Titanium Dioxide	13463-67-7

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

No Proposition 65 Reproductive Toxins exist in this product.

International Regulations: As follows -

CANADIAN WHMIS:

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

WHMIS Class: D2A, D2B

Denmark

B-Value: 0.000000

France

Storage Conditions: No Information

Professional Illness Table:

CAS Number	Chemical Name	Professional Illness
13463-67-7	Titanium Dioxide	not available

Germany

VbF-Class: No Information

WGK-class: 0

Remarks:
WGK 0 = in general not a water pollutant
WGK 1 = weak water pollutant
WGK 2 = water pollutant
WGK 3 = severe water pollutant

Processing restrictions:*

Incident Regulation:
No Information

Spain

Storage Conditions: No Information

Switzerland

VOC-Value: 0.00

United Kingdom

Storage Conditions: No Information

Section 16. Other information, including date of preparation of the last revision

Revision Date: 3/8/2016 **Supercedes Date:** 2/24/2016

Reason for revision: Substance and/or Product Properties Changed in Section(s):
01 - Product Information

Datasheet produced by: Regulatory Department

HMIS Ratings:

Health:	1	Flammability:	1	Reactivity:	0	Personal Protection:	X

NFPA Ratings:

Health:	1	Flammability:	1	Reactivity:	0	Hazards:	N.I.

Volatile Organic Compounds, gr/ltr: 0

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H351 Suspected of causing cancer.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS08

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined, N.I. - No Information

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product where instructions and recommendations are not followed. Any use of the product not in conformance with this SDS or in combination with any other product or process is the responsibility of the user.