SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product form : Mixture
Product name : 11000 Series Printing Base
Product code : 11000
Product group : Commercial product

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation : Industrial manufacture of coatings and inks

1.3. Details of the supplier of the safety data sheet

TW Graphics Group
3323 S. Malt Avenue
Commerce, CA 90040

T 323-721-1400
www.twgraphics.com

1.4. Emergency telephone number

Emergency number : 800-424-9300
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification
Flam. Liq. 3 H226
Skin Irrit. 2 H315
Carc. 2 H351

2.2. Label elements

GHS-US labeling
Hazard pictograms (GHS-US)

:

GHS02 GHS07 GHS08

Signal word (GHS-US) : Warning
Hazard statements (GHS-US) : H226 - Flammable liquid and vapor
H315 - Causes skin irritation
H351 - Suspected of causing cancer
Precautionary statements (GHS-US) : P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and Understood
P210 - Keep away from heat, hot surfaces, open flames, sparks. - No Smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P264 - Wash hands and forearms thoroughly after handling
P280 - Wear eye protection, face protection, protective clothing
P302+P352 - IF ON SKIN: Wash with plenty of water
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all Contaminated clothing. Rinse skin with water/shower
P308+P313 - IF exposed or concerned: Get medical advice/attention
P332+P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing
P370+P378 - In case of fire: Use foam, carbon dioxide (CO2), alcohol resistant
foam, dry chemical, water fog for extinction
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container according to local, regional, national, and international regulations

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Propylene glycol monomethyl ether acetate	(CAS No.) 108-65-6	35 - 40	Flam. Liq. 3, H226
Titanium dioxide	(CAS No.) 13463-67-7	25 - 30	Skin Irrit. 2, H315 Carc. 2, H351
1,2-Ethanediol, diacetate	(CAS No.) 111-55-7	5-10	Flam. Liq. 4, H227 Skin Irrit. 2, H315

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation	: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.
First-aid measures after skin contact	: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Get medical advice/attention.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: If a large quantity has been ingested: Gastrointestinal irritation.
Chronic symptoms	: Prolonged and frequent exposure through inhalation may cause cancer.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Flammable liquid and vapour. Vapours are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapours. Under conditions of fire this material may produce: Carbon dioxide (CO2). Carbon monoxide. Hydrogen cyanide. Hexamethylene diisocyanate. Nitrogen oxides. Low molecular weight hydrocarbon fragments.
Explosion hazard	: May form flammable/explosive vapor-air mixture.
Reactivity	: Stable at ambient temperature and under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions	: Closed containers exposed to heat may explode. Use water spray or fog forcooling exposed containers. Exercise caution when fighting any chemical fire. Keep upwind. Avoid (reject) fire-fighting water to enter environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect absorbed material and place into a sealed, labeled container for proper disposal.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting equipment.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from: Incompatible materials, Heat sources. Keep container tightly closed.

Incompatible materials : Strong oxidizers.

7.3. Specific end use(s)

Industrial manufacture of coatings and inks

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Zinc stearate (557-05-1)		
USA NIOSH	NIOSH REL (TWA) (mg/m3)	5 mg/m³
USA NIOSH	OSHA PEL (TWA) (mg/m3)	5 mg/m³

Titanium dioxide (13463-67-7)		
USA ACGIH	ACGIH TWA (mg/m³)	10 mg/m³
USA IDLH	US IDLH (mg/m3)	5000 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m3)	15 mg/m³

8.2. Exposure controls

Appropriate engineering controls : Provide adequate ventilation to minimize dust and/or vapour Concentrations.

Hand protection : Neoprene or nitrile rubber gloves.

Eye protection : Chemical safety goggles.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Use approved respiratory protection with an organic vapor cannister or filter if vapor concentrations are expected to exceed recommended exposure levels.

Environmental exposure controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : Clear to pale yellow.

Odour : Sweet. Ether-like.

Odour threshold : No data available

Ph : No data available

Relative evaporation rate (butylacetate=1) : No data available

Relative evaporation rate (ether=1) : > 1

Melting point	: No data available
Freezing point	: No data available
Boiling point	: 150 - 187 °C (302 - 369 °F)
Flash point	: 45 °C (114 °F) TCC
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: < 1 (Air = 1)
Relative density	: 1.1
Solubility	: Water: Insoluble
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: None known
Explosive limits	: 1.3 - 13.1 vol %

9.2. Other information

VOC content : 0.774 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable at ambient temperature and under normal conditions of use.

10.2. Chemical stability

Flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid
Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

10.5. Incompatible materials
Strong oxidizers.

10.6. Hazardous decomposition products
Under conditions of fire this material may produce: Carbon monoxide. Carbon dioxide. Nitrogen oxides. Hydrogen cyanide. Hexamethylene diisocyanate. Low molecular weight hydrocarbon fragments.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Zinc stearate (557-05-1)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

1,2-Ethanediol, diacetate (111-55-7)	
LD50 oral rat	6850 mg/kg
LD50 dermal rabbit	8480 µl/kg
ATE (oral)	6850 mg/kg

Propylene glycol monomethyl ether acetate (108-65-6)	
LD50 oral rat	8532 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
ATE (oral)	8532 mg/kg

Titanium dioxide (13463-67-7)	
LD50 oral rat	> 10000 mg/kg

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Suspected of causing cancer.

Titanium dioxide (13463-67-7)	
IARC group	2B

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

1,2-Ethanediol, diacetate (111-55-7)	
LC50 fish 1	90 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

Propylene glycol monomethyl ether acetate (108-65-6)	
LC50 fish 1	161 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	> 500 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

11000 Series Printing Base	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

11000 Series Printing Base	
Bioaccumulative potential	Not established.

Zinc stearate (557-05-1)	
Log Pow	1.2

Propylene glycol monomethyl ether acetate (108-65-6)	
Log Pow	0.43

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container according to local, regional, national, and international regulations.

Additional information : Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

UN-No.(DOT) : 1993
DOT NA no. : UN1993

14.2. UN proper shipping name

DOT Proper Shipping Name : Flammable liquids, n.o.s.
Contains : Propylene glycol monomethyl ether acetate
Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid

DOT Symbols : G - Identifies PSN requiring a technical name
Packing group (DOT) : III - Minor Danger
DOT Special Provisions (49 CFR 172.102) : B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable. B52 - Notwithstanding the provisions of 173.24b of this subchapter, nonreclosing pressure relief devices are authorized on DOT 57 portable tanks. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling ust not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.2 Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed ''on deck'' or ''under deck'' on a cargo vessel and on a passenger vessel.

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L

SECTION 15: Regulatory information

15.1. US Federal regulations

11000 Series Printing Base	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard

Zinc stearate (557-05-1)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2-Ethanediol, diacetate (111-55-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Propylene glycol monomethyl ether acetate (108-65-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Titanium dioxide (13463-67-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US State regulations

Zinc stearate (557-05-1)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Hawaii - Occupational Exposure Limits - STELs
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour

Zinc stearate (557-05-1)

U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

1,2-Ethanediol, diacetate (111-55-7)

U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Propylene glycol monomethyl ether acetate (108-65-6)

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Titanium dioxide (13463-67-7)

U.S. - California –Proposition 65 Carcinogen List
WARNING: This material contains Titanium dioxide, a substance known to the state of California to cause cancer.

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Hawaii - Occupational Exposure Limits - STELs
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminant Carcinogens
U.S. - Massachusetts - Right To Know List

U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs

Titanium dioxide (13463-67-7)
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

SECTION 16: Other information

Full text of H- phrases:

Carc. 1A	Carcinogenicity Category 1A
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	skin corrosion/irritation Category 2
H226	Flammable liquid and vapour
H315	Causes skin irritation
H319	Causes serious eye irritation
H350	May cause cancer

HMIS III Rating

Health:	1 Slight Hazard - Irritation or minor reversible injury possible * Chronic - Chronic (long-term) health effects may result from repeated overexposure
Flammability:	3 Serious Hazard
Physical:	0 Minimal Hazard

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

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