



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT TONERS			
						WM011	WM013	WM161	WM162
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	1-10	1-10	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F. (48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT PEARL TONERS			
						WP012	WP013	WP018	WP020
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	--	--	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F. (48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconitioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT PEARL TONERS			
						WP023	WP026	WP028	WP029
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	--	--	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F.(48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT PEARL TONERS			
						WP030	WP038	WP041	WP048
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	--	--	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F. (48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT TONERS			
						WM002	WM103	WM107	WM109
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	--	--	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F. (48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT TONERS			
						WM194	WM223	WM301	WM320
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	--	--	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F. (48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m3, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT TONERS			
						WM325	WM328	WM365	WM401
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	--	--	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F. (48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT TONERS			
						WM402	WM403	WM501	WM562
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	--	--	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F.(48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT TONERS			
						WM505	WM564	WM661	WM881
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	--	--	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F.(48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT METALLIC TONERS		
						WM910	WM912	WM920
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	--	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F.(48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconitioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT METALLIC /PEARL TONERS			
						WM921	WM931	WM940	WP001
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	--	--	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F.(48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE BASECOAT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1101

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE BASECOAT PEARL TONERS			
						WP002	WP008	WP010	WP011
111-76-2	ETHYLENE GLYCOL BUTYL ETHER	--	--	--	40.00	2-3	2-3	2-3	2-3
13463-67-7	TITANIUM PIGMENT	--	8 4	10 8	--	--	--	--	--
67-63-0	ISOPROPYL ALCOHOL	--	350	700	--	2-3	2-3	2-3	2-3
71-36-3	N-BUTYL ALCOHOL	--	100	--	--	3-4	3-4	3-4	3-4
RELATIVE DENSITY (WATER=1)						0.95-1.25	0.95-1.25	0.95-1.25	0.95-1.25
FLASH POINT (°C)						--	--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F. (48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconitioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE DEGREASING AGENT

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-WM-1-1105

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

Pure <input type="checkbox"/>						Compound <input checked="" type="checkbox"/>
						WATERBORNE DEGREASING AGENT
CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	
64-17-5	ALCOHOL	--	--	--	5.33(19 °C)	WM008 0-30
RELATIVE DENSITY (WATER=1)						0.96-1.02
FLASH POINT (°C)						--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^a,^b is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F. (48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m3, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***



Material Safety Data Sheet (MSDS)

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: WATERBORNE THINNER SERIES

COMPANY NAME: DONGLAI COATING TECHNOLOGY (SHANGHAI) CO.,LTD **ADDRESS:** NO.1221, XINHE RD., JIADING NORTH INDUSTRIAL AREA, SHANGHAI, CHINA - 201807

PRODUCT SAFETY/MSDS INFORMATION: +86 (21) 39538501 **MSDS CODE:** MSDS-T-1-0801

EMERGENCY PHONE NUMBERS: +86 (0532)3889090; (0532)3889191 **ISSUE DATE:** 01/03/2014

SECTION 2 - COMPOSITION INFORMATION

Pure

Compound

CAS#	HAZARDOUS INGREDIENT(S) (WEIGHT %)	MAC mg/m ³	TWA mg/m ³	STEL mg/m ³	Vapour Pressure ^a kPa/20°C	WATERBORNE THINNER SERIES		
						WM005 STANDARD THINNER	WM006 FAST DRY THINNER	WM007 SLOW DRY THINNER
64-17-5	ALCOHOL	--	--	--	5.33(19 °C)	0-30	0-30	0-30
RELATIVE DENSITY (WATER=1)						0.96-1.02	0.96-1.02	0.96-1.02
FLASH POINT (°C)						--	--	--

Note: MAC/TWA/STEL data is from (GBZ 2-2002)

Data marked with ^{a, b} is from <International Chemical Safety Cards>; Data marked with ^b is converted according to (ACGIH)

Data marked with ^c is provided by EXXONMobil



Material Safety Data Sheet (MSDS)

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be harmful if absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated

with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. N-hexane has caused peripheral neuropathy, characterized by numbness and weakness in the extremities. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.



Material Safety Data Sheet (MSDS)

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be

necessary.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires. Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat.

PROTECTION OF FIREFIGHTERS:

Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Keep these products away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat. May produce hazardous decomposition products when exposed to extreme heat. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

SECTION 6 - ACCIDENTAL RELEASE MEASURE



Material Safety Data Sheet (MSDS)

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

STORAGE:

Do not store above 120 degrees F.(48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL

PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH-approved air purifying respirator with the appropriate chemical cartridges or a positive- pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne



Material Safety Data Sheet (MSDS)

contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE – ESTABLISHED EXPOSURE LIMITS

China MAC, TWA, STEL please refer to table at section 2

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

(FORMULA VALUES, NOT SALES SPECIFICATIONS)

SPECIFIC GRAVITY:	Not available
PHYSICAL STATE:	Liquid
Percent Solids:	Not available
Percent Volatile by Volume:	Not available
pH:	Not available
ODOR THRESHOLD:	Not available
Vapour Pressure:	Refer to Section 2
ODOR/APPERANCE:	Non-viscous liquid with special smell
VAPOR DENSITY:	HEAVIER THAN AIR
Evaporation Rate:	Not available
BOILING POINT OR RANGE:	78-192Degrees F
Freezing Point or Range:	Not Applicable
Melting Point or Range (°C):	< -20°C
Partition coefficient (n-octanol/water):	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

This product is normally stable and will not undergo hazardous reactions.

CONDITIONS TO AVOID:

Fire, extreme heat.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidizing agents.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Carbon monoxide - Carbon dioxide

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 2~4.3g/kg(ORAL); LC50 19.0g/m³, 4h(INHALATION)

CHRONIC TOXICITY:

"ETHYLENE GLYCOL MONOETHYL ETHER ACETATE" and "ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE" might cause in anemia & kidney damage.

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE might cause in reproductive or growth toxicity.

Carcinogenicity Toxicity:

This has not been tested for this product.



Material Safety Data Sheet (MSDS)

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity: Keep these products away from groundwater, river and drainage system.

ENVIRONMENTAL FATE

Mobility: No information available.
Biodegradation: No information available.
Bioaccumulation: No information available.

PHYSICAL/CHEMICAL

Hydrolysis: No information available.
Photolysis: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Provide maximum ventilation, only personnel equipped with proper respiratory and skin and eye protection should be permitted in the area. Take up spilled material with sawdust, vermiculite, or other absorbent material and place in containers for disposal.

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Dangerous Goods Number: 32198, Inflammable Liquid
(GB12268-2005/GB6944-2005)

UN Number: 1263

Packing Mark: Main Mark, No.7, Inflammable Mark; sub-mark, No.15, Hazard Mark. (GB190-90)

Packing Group: Refer to Section 2

Packing: Small Open Steel Drum: Metal Drum(Tin), Paper or Wood Case outer

Transportation Caution: Early morning or night delivery, avoid exposing under strong sunlight.

SECTION 15 - REGULATORY INFORMATION

<Safety Regulation for Dangerous Chemical Goods > (issued on 15/03/2002 by the State Council) regulates the production, use, storage, transportation, and load for dangerous chemical goods.

<Classification and labels of dangerous chemical substances commonly used> (GB13690—92) classified it as No. 3.3 high flash point flammable liquid, A811 fast dry thinner was classified as No. 3.2 flash point flammable liquid.

SECTION 16 - OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



Material Safety Data Sheet (MSDS)

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

*** END OF MSDS ***