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Updated : October 28, 2010

MSDS No. : MS-00232601-02

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SECTION 1 IDENTIFICATION

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MANUFACTURER TAIYO INK MFG. CO., LTD. TEL 81-493-61-2832  
900 Hirasawa, Ranzan-machi, Hiki-gun FAX 81-493-61-2833  
Saitama, 355-0215 JAPAN

DISTRIBUTOR

EMERGENCY CONTACT TEL 81-493-61-2832 FAX 81-493-61-2833

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SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

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INGREDIENTS	CAS No.	CONTENTS (%)	OSHA (PEL)	ACGIH (TLV)
Bisphenol A-(epichlorhydrin);Epoxy resin(MW $\leq$ 700)				
	25068-38-6	< 25%	N. A.	N. A.
Barium Sulfate	7727-43-7	< 32%	dust 15mg/m3	10mg/m3
Talc containing no asbestiform fibers				
	14807-96-6	< 5%	20mppcf	2mg/m3 (R)
Silica, amorphous	Trade secret	< 1%	N. A.	dustTLV10mg/m3

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SECTION 3 HAZARDS IDENTIFICATION

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INHALATION : Highly concentrated vapor irritates nose, throat and lungs.  
May cause headache and dizziness.

EYE CONTACT : Moderately irritation

SKIN CONTACT : Moderately irritation

INGESTION : Harmful, if swallowed.

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SECTION 4 FIRST AID MEASURES

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SKIN CONTACT : Wash with plenty of running water using a mild soap. Do not use organic solvents.

EYE CONTACT : Rinse immediately with clean water for at least 15 minutes.  
If irritation persists, seek medical attention.

INHALATION : Immediately carry the victim to a place where fresh air is available.  
If irritation persists, treat with oxygen and seek medical attention.

INGESTION : Obtain medical advice immediately. It is not recommended that vomiting be induced except on medical advice.

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SECTION 5 FIRE-FIGHTING MEASURES

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SUITABLE EXTINGUISHING MEDIA : Carbon dioxide, foam, powder.

UNSUITABLE EXTINGUISHING MEDIA : Water spray and water jet.

EXPOSURE HAZARDS : Burning may release oxides of carbon, nitrogen, sulphur and other toxic gases or vapors. Do not release chemically contaminated water into drains or surface waters. Dispose of contaminated waters and soil according to local regulations.

PROTECTIVE EQUIPMENT FOR FIREFIGHTERS : Use full protective clothing and self-contained breathing apparatus.

MEASURES : Promptly move transferable containers to another safety area. Check the speed and spread of fire. Extinguish the fire with suitable

extinguisher from the windward side.

## SECTION 6

## ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTION : Avoid ignition sources. Avoid contact with skin, eyes and clothing. Avoid inhaling vapor.

ENVIRONMENTAL PRECAUTIONS : Prevent contamination of soil, drains and surface waters

METHODS FOR CLEANING : Scoop up or absorb into combustible material, wipe out a stain in use organic solvents. Dispose in accordance with local regulations.

## SECTION 7

## HANDLING AND STORAGE

HANDLING : Handle with care. Avoid ignition sources. Ensure good ventilation and local exhaust. Do not smoke at the workplace.

STORAGE : Store in the original sealed container at less than 20°C. Avoid direct exposure to UV and sunlights.

## SECTION 8

## EXPOSURE CONTROLS/PERSONAL PROTECTION

People who know they are chemically sensitive, should avoid contact with this product.

TECHNICAL PROTECTIVE MEASURES : No special safety measures required.

EXPOSURE CONTROL LIMITS : (See PEL and TLV values shown in section 2)

RESPIRATORY PROTECTION : Wear suitable mask to avoid inhalation of vapor.

HAND PROTECTION : Wear chemical resistant gloves.

EYE PROTECTION : Wear safety glasses.

SKIN PROTECTION : Wear suitable protective working cloths.

## SECTION 9

## PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT	: *191°C (760mmHg)	COLOR	: Yellow
FLASH POINT	: 142.0°C (Cleveland O. C.)	FORM	: Paste
VAPOR PRESSURE	: * 2.00mmHg ( 38°C)	VAPOR DENSITY	: * 6.12 (Air=1)
SOLUBILITY IN WATER	: *< 7.0wt%	ODOR	: Mild odor
		SPECIFIC GRAVITY	: 1.7 - 1.9

\*Data of the organic solvents or monomers contained in this product is quoted.

## SECTION 10

## STABILITY AND REACTIVITY

STABILITY : Stable

CONDITIONS TO AVOID : Heat and sunlight.

MATERIALS TO AVOID : Strong acids, strong bases, peroxids and strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS : Burning may release oxides of carbon, nitrogen, sulphur and other toxic gases or vapors.

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 SECTION 11 TOXICOLOGICAL INFORMATION
 

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## PRIMARY ROUTE(S) OF ENTRY

 DERMAL       INHALATION       INGESTION

TOXICITY STUDIES : Toxicity studies have not been carried out on this product. Toxicity information available for the ingredients listed in section 2 is given below.

## HEALTH HAZARDS

ACUTE INGESTION TOXICITY : N.E.  
 ACUTE SKIN IRRITATION : Slightly irritant  
 MUTAGENICITY : Bisphenol A-(epichlorhydrin);Epoxy resin (MW ≤ 700) is suspected to have a mutagenicity.

## CARCINOGENICITY

 NTP       IARC       OSHA       NOT LISTED

## SYMPTOMS OF OVER EXPOSURE

INHALATION : Slight irritation to respiratory tract. Highly concentrated vapor may cause headaches, dizziness, and nausea.  
 EYES : Moderately irritation  
 SKIN : Moderately irritation  
 INGESTION : Expected to have a low order of toxicity.

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## SECTION 12 ECOLOGICAL INFORMATION

ACUTE FISH TOXICITY : Ecological data are not available  
 BIODEGRADABILITY : U. K.

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## SECTION 13 DISPOSAL CONSIDERATIONS

Incineration or landfill in accordance with local regulations.

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## SECTION 14 TRANSPORT INFORMATION

IMDG-CODE : Free  
 IATA : Free  
 UN : Free  
 FLASH POINT : 142.0°C (Cleveland O. C.)

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## SECTION 15 REGULATORY INFORMATION

EEC LABELING : Xi=Irritant

N = Dangerous for the environment

RISK PHRASES : R36/38 - Irritating to eyes and skin.  
 R43 - May cause sensitization by skin contact.  
 R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SAFETY PHRASES : S37/39 - Wear suitable gloves and eye/face protection.  
 S28 - After contact with skin, wash immediately with plenty of water and soap.  
 S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

TSCA :  on TSCA       on LVE       NOT LISTED  
 EINECS :  on EINECS       on ELINCS       NOT LISTED

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**SECTION 16****OTHER INFORMATION**

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This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties. It may not be valid for this material, if used in combination with any other materials.

Data provided in Section 11,12 and 15 are quoted from raw materials MSDSs.

Please kindly contact to our local sales office/distributor in case if you plan to export this product before use.

HD - 3

Updated : October 28, 2010

MSDS No. : MS-00151711-06

## SECTION 1 IDENTIFICATION

MANUFACTURER	TAIYO INK MFG. CO., (KOREA) LTD. 1058-8. Singil-dong, Danwon-gu, Ansan-city, Gyeonggi-do, 425-839 KOREA	TEL82-31-491-9250 FAX82-31-491-7671
DISTRIBUTOR	TAIYO INK MFG. CO., LTD. 900 Hirasawa, Ranzan-machi, Hiki-gun Saitama, 355-0215 JAPAN	TEL 81-493-61-2832 FAX 81-493-61-2833
EMERGENCY CONTACT	TEL 81-493-61-2832	FAX 81-493-61-2833

## SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS	CAS No.	CONTENTS(%)	OSHA (PEL)	ACGIH (TLV)
Bisphenol A-(epichlorhydrin);Epoxy resin(MW ≤ 700)	25068-38-6	< 20%	N. A.	N. A.
Diethylene Glycol Monobutyl Ether	112-34-5	< 25%	N. A.	N. A.
Silica, amorphous	Trade secret	< 25%	N. A.	dustTLV10mg/m3

## SECTION 3 HAZARDS IDENTIFICATION

INHALATION : Highly concentrated vapor irritates nose, throat and lungs.  
May cause headache and dizziness.

EYE CONTACT : Moderately irritation

SKIN CONTACT : Moderately irritation

INGESTION : Harmful, if swallowed.

## SECTION 4 FIRST AID MEASURES

SKIN CONTACT : Wash with plenty of running water using a mild soap. Do not use organic solvents.

EYE CONTACT : Rinse immediately with clean water for at least 15 minutes.  
If irritation persists, seek medical attention.

INHALATION : Immediately carry the victim to a place where fresh air is available.  
If irritation persists, treat with oxygen and seek medical attention.

INGESTION : Obtain medical advice immediately. It is not recommended that vomiting be induced except on medical advice.

## SECTION 5

## FIRE-FIGHTING MEASURES

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SUITABLE EXTINGUISHING MEDIA	: Carbon dioxide, foam, powder.
UNSUITABLE EXTINGUISHING MEDIA	: Water spray and water jet.
EXPOSURE HAZARDS	: Burning may release oxides of carbon, nitrogen, sulphur and other toxic gases or vapors. Do not release chemically contaminated water into drains or surface waters. Dispose of contaminated waters and soil according to local regulations.
PROTECTIVE EQUIPMENT FOR FIREFIGHTERS MEASURES	: Use full protective clothing and self-contained breathing apparatus. : Promptly move transferable containers to another safety area. Check the speed and spread of fire. Extinguish the fire with suitable extinguisher from the windward side.

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## SECTION 6

## ACCIDENTAL RELEASE MEASURES

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PERSONAL PRECAUTION	: Avoid ignition sources. Avoid contact with skin, eyes and clothing. Avoid inhaling vapor.
ENVIRONMENTAL PRECAUTIONS METHODS FOR CLEANING	: Prevent contamination of soil, drains and surface waters : Scoop up or absorb into combustible material, wipe out a stain in use organic solvents. Dispose in accordance with local regulations.

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## SECTION 7

## HANDLING AND STORAGE

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HANDLING	: Handle with care. Avoid ignition sources. Ensure good ventilation and local exhaust. Do not smoke at the workplace.
STORAGE	: Store in the original sealed container at less than 25°C. Avoid direct exposure to UV and sunlights.

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## SECTION 8

## EXPOSURE CONTROLS/PERSONAL PROTECTION

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People who know they are chemically sensitive, should avoid contact with this product.	
TECHNICAL PROTECTIVE MEASURES	: No special safety measures required.
EXPOSURE CONTROL LIMITS	: (See PEL and TLV values shown in section 2)
RESPIRATORY PROTECTION	: Wear suitable mask to avoid inhalation of vapor.
HAND PROTECTION	: Wear chemical resistant gloves.
EYE PROTECTION	: Wear safety glasses.
SKIN PROTECTION	: Wear suitable protective working cloths.

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## SECTION 9

## PHYSICAL AND CHEMICAL PROPERTIES

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BOILING POINT	: *231°C (760mmHg)	COLOR	: Grayish Brown
FLASH POINT	: 77.0°C (Seta C.C.)	FORM	: Paste
VAPOR PRESSURE	: * 0.02mmHg( 20°C)	VAPOR DENSITY	: * 5.60 (Air=1)
SOLUBILITY IN WATER	: * < 25.0wt%	ODOR	: Mild odor
		SPECIFIC GRAVITY	: 1.0 - 1.2

\*Data of the organic solvents or monomers contained in this product is quoted.

## SECTION 10

## STABILITY AND REACTIVITY

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STABILITY : Stable  
CONDITIONS TO AVOID : Heat and sunlight.  
MATERIALS TO AVOID : Strong acids, strong bases, peroxids and strong oxidizing agents.  
HAZARDOUS DECOMPOSITION PRODUCTS : Burning may release oxides of carbon, nitrogen, sulphur and other toxic gases or vapors.

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## SECTION 11

## TOXICOLOGICAL INFORMATION

## PRIMARY ROUTE(S) OF ENTRY

DERMAL       INHALATION       INGESTION

TOXICITY STUDIES : Toxicity studies have not been carried out on this product. Toxicity information available for the ingredients listed in section 2 is given below.

## HEALTH HAZARDS

ACUTE INGESTION TOXICITY : N.E.  
ACUTE SKIN IRRITATION : Slightly irritant  
MUTAGENICITY : Bisphenol A-(epichlorhydrin);Epoxy resin(MW  $\leq$  700) is suspected to have a mutagenicity.

## CARCINOGENICITY

NTP       IARC       OSHA       NOT LISTED

## SYMPTOMS OF OVER EXPOSURE

INHALATION : Slight irritation to respiratory tract. Highly concentrated vapor may cause headaches, dizziness, and nausea.  
EYES : Moderately irritation  
SKIN : Moderately irritation  
INGESTION : Expected to have a low order of toxicity.

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## SECTION 12

## ECOLOGICAL INFORMATION

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ACUTE FISH TOXICITY : Ecological data are not available  
BIODEGRADABILITY : U. K.

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## SECTION 13

## DISPOSAL CONSIDERATIONS

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Incineration or landfill in accordance with local regulations.

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## SECTION 14

## TRANSPORT INFORMATION

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IMDG-CODE : Free  
IATA : Free  
UN : Free  
FLASH POINT : 77.0°C (Seta C. C.)

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SECTION 15REGULATORY INFORMATION

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EEC LABELING : Xi=Irritant

RISK PHRASES : R36/38 - Irritating to eyes and skin.  
R43 - May cause sensitization by skin contact.  
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SAFETY PHRASES : S24 - Avoid contact with skin.  
S37/39 - Wear suitable gloves and eye/face protection.  
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S28 - After contact with skin, wash immediately with plenty of water and soap.  
S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

TSCA :  on TSCA  on LVE  NOT LISTED  
EINECS :  on EINECS  on ELINCS  NOT LISTED

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## SECTION 16

OTHER INFORMATION

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This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties. It may not be valid for this material, if used in combination with any other materials.

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