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MATERIAL SAFETY DATA SHEET

Date of Issue20220629Renewal Date20230724Renewal No.1

	1.CHEMICAL PRODUCT	INFORMATION			
Product Name	COILX6000 PBMD-0018-7A K1N18S	Color K1N18S			
Application	PRINT BASE	8. Coatings and paints, thinners, paints r 8.1 Oil paint	emover		
Manufacture	SAMHWA PAINTS IND.CO.,LTD.	Telephone NO. 82-31-499 - 0394			
Address	178, Byeolmang-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea	Department			
•	2. HAZARDS IDENTI	FICATION			
 FLAMMABI ASPIRAT SKIN COL CARCINO GERM CEL GERM CEL REPRODU SPECIFIC SENSITIZ ACUTE TO SENSITIZ SUBSITIZ SUBSITIZZ S	Attion of the substance LE LIQUIDS - category 4 ION HAZARD - category 1 RROSION/IRRITATION - category 2(Skin irritant) GENICITY - category 1B LL MUTAGENICITY - category 1B CTIVE TOXICITY - category 1B C TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - categor ZATION - SKIN - category 1 DXICITY (ORAL) - category 2 DXICITY (DERMAL) - category 4 DXICITY (INHALATION-VAPOR) - category 3 JS TO THE AQUATIC ENVIRONMENT(CHRONIC HAZARD) - chror I label elements, including precautionary statements 				

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• • Precaution	ary statements :				
Prevention	Prevention- Obtain special instructions before use.				
	Do not breathe dust/fume/gas/mist/vapours/spray.				
	Use only outdoors or in a wellventilated area.				
	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking				
	Do not eat, drink or smoke when using this product.				
	Avoid release to the environment.				
Response-	Do NOT induce vomiting.				
	Call a POISON CENTER or doctor/physician.				
	Take off contaminated clothing and wash it before reuse.				
	IF exposed or concerned: Get medical advice/attention.				
	If skin irritation occurs: Get medical advice/attention.				
	Specific treatment (see on this label).				
	IF ON SKIN : Wash with plenty of water/…				
	If skin irritation or rash occurs: Get medical advice/attention.				
	Collect spillage.				
	Rinse mouth.				
	IF INHALED : Remove person to fresh air and keep comfortable for breathing.				
	In case of fire: Use Suitable extinguishing media for extinction.(Refer Section MSDS 5)				
	Get medical advice/attention if you feel unwell.				
	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.				
	Call a POISON CENTER or doctor/physician if you feel unwell.				
Storage-	Srore in a well-ventilated place. Keep container tightly closde.				
	Store in a well-ventilated place.				
	Store locked up.				
Disposal-	Dispose of contents/container to ralate laws and regulations.				

3.CHEMICAL COMPOSITION

Chemical Name	CAS NO.	Portion(%)	Remarks
Barium sulfate, natural	7727-43-7	More than 1 ~ Under 10 %	
3-Ethoxypropanoic acid ethyl ester	763–69–9	More than 1 ~ Under 10 %	
Aluminium	7429-90-5	More than 1 ~ Under 10 %	
Methylated 1,3,5-triazine-2,4,6-triamine, formaldehyde polymer	68002-20-0	More than 1 ~ Under 10 %	
Solvent naphtha (petroleum), light arom.	64742-95-6	More than 11 ~ Under 20 %	
Solvent naphtha (petroleum), heavy arom.	64742-94-5	More than 1 ~ Under 10 %	
Naphtha (petroleum), hydrotreated heavy	64742-48-9	More than 0.1 ~ Under 1 %	
Hexanedioic acid dimethyl ester	627-93-0	More than 1 ~ Under 10 %	
1,3-Benzenedicarboxylic acid polymer with 1,4-benzenedicarboxylic acid, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and hexanedioic acid	52247-59-3	More than 41 ~ Under 50 %	
lsophthalic acid polyester with adipic acid, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 1,2-propanediol	28430-17-3	More than 1 ~ Under 10 %	

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Chemical Name	CAS NO.	Portion(%)	Remarks
4,4'-(1-Methylethylidene)bisphenol polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirar	25036-25-3	More than 1 ~ Under 10 %	
2-Hydroxy-2-methylpropanoic acid methyl ester	2110-78-3	More than 1 ~ Under 10 %	
Carbon black	1333-86-4	More than 1 ~ Under 10 %	
Xy I ene	1330-20-7	More than 1 ~ Under 5 %	
Pentanedioic acid, dimethyl ester	1119-40-0	More than 1 ~ Under 10 %	
Cyclohexanone	108-94-1	More than 1 ~ Under 10 %	
Propylene glycol methyl ether acetate	108-65-6	More than 1 ~ Under 10 %	
4-Methyl-2-pentanone	108-10-1	More than 0.1 ~ Under 1 %	
Butanedioic acid dimethyl ester	106-65-0	More than 1 ~ Under 10 %	
Isobutylacrylate	106-63-8	More than 1 ~ Under 10 %	
Ethylbenzene	100-41-4	More than 1 ~ Under 10 %	

4. HEALTH HAZARD INFORMATION

1. Eye contact

Wash off immediately with plenty of water, also under the eyelids, for at least 20 minutes. Call a physician immediately.

2. Skin contact

Remove the contaminated clothes and the skin will be washed with water and soap.

- Do not use solvents.
- 3. Inhalation

Move to fresh air and if he/she not breathes perform artificial respiration.

Consult a physician if necessary.

4. Ingestion

Do not induce vomiting unless it is indicated by medical personnel.

Never give anything by oral tract to an unconscious. Get medical attention if symptoms appear.

5. Note to physician

Very small quantities of the product reached in lungs may be fatale. Ingestion of the product may cause chemical irritation that may diffuse to lungs and cause edema. Check carefully the victim and apply intubations in all ingestion cases for all important amounts.

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5.FIRE FIGHTING MEASURES

1	Flash	point	: 65	°C
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2. Ignition temp : Not determined

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- 3. Upper expolosion limit / Lower explosion limit : Not determined
- 4. The Fire Service Act : Fourth grade 2nd.Petroleum
- 5. Fire extinguisher : CO2, Powder, Halogen Fire extinguisher and Sand etc.
- 6. Fire and explosion Method of extinguishing and equipment:

Wear suitable protective equipment Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

Due to vapor is heavier than air, keep the distance from the ignition source pour into the fresh air.

Remove promptly flammable material. Put out a fire at once with prepared fire extinguisher.

- Hazardous materials in combustion: Could be generated complexed mixture like solid and gas containing CO, SO2 etc. Unidentified organic and inorganic compound.
- 8. Extinguishing method which must not used for safety : Not applicable

6.ACCIDENTAL RELEASE MEASURES

Personal precautions
 Evacuate useless personnel, isolate the heat and flame sources, ventilate and wet the area if is possible.
 All personnel must be protected against vapours inhalation and against skin and eyes contact.

- Methods for cleaning up Absorb with dry earth, sand or other non-combustible material and precede according decontamination regulation. Recovered product will be stored in metallic drums with removable lid or metallic containers, which will be sent to incineration.
- Environmental precautions
 Do not let the product to reach water, drain and earth. Prevent the extending in soil.
 Prevent entry into sewers, basements or confined areas; dike if needed

7. HANDLING AND STORAGE

1. Handling

Avoid contact with skin or eyes. Use only up well-ventilated areas. Avoid breathing vapor. Do not take internally. Take precautionary measures against static is charges.

- Storage The product must be kept in original container tightly closed. Store between 5~35°C in dry, well-ventilated place away from source of heat, ignition and direct sunlight.
- Solvent vapours are heavier than air and spread along floors. Vapours may form explosive mixtures. No smoking. 3. Other precautions

Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

 1. Exposure limit values

 Chemical Name
 Cas No
 Interior provision
 ACGHI

 Barium sulfate, natural
 7727-43-7
 No data
 TWA 10 mg/m³

 3-Ethoxypropanoic acid ethyl ester
 763-69-9
 No data
 No data

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	Cas No	Interior provision	ACGHI
Aluminium	7429-90-5	TWA : 2 mg/m [*]	TWA : 10 mg/m3 Aluminium(metal dust)
Methylated 1,3,5-triazine-2,4,6-triamine, formaldehyde polymer	68002-20-0	No data	No data
Solvent naphtha (petroleum), light arom.	64742-95-6	No data	No data
Solvent naphtha (petroleum), heavy arom.	64742-94-5	No data	No data
laphtha (petroleum), hydrotreated heavy	64742-48-9	No data	No data
lexanedioic acid dimethyl ester	627-93-0	No data	No data
1,3-Benzenedicarboxylic acid polymer with 1,4-benzenedicarboxylic acid, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and hexanedioic	52247-59-3	No data	No data
sophthalic acid polyester with adipic acid, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 1,2-propanediol	28430-17-3	No data	No data
1,4'-(1-Methylethylidene)bisphenol polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[c	25036-25-3	No data	No data
2-Hydroxy-2-methylpropanoic acid methyl ester	2110-78-3	No data	No data
Carbon black	1333-86-4	TWA : 3.5 mg/m [*]	TWA 3.5 mg/m3
(ylene	1330-20-7	TWA : 100 ppm STEL : 150 ppm	STEL 150 ppm TWA 100 ppr
Pentanedioic acid, dimethyl ester	1119-40-0	No data	No data
Cyclohexanone	108-94-1	TWA : 25 ppm 100 mg/m [*] STEL : 50 ppm 200 mg/m [*]	TWA 20 ppm
Propylene glycol methyl ether acetate	108-65-6	No data	No data
-Methyl-2-pentanone	108-10-1	TWA : 50 ppm 205 mg/m [*] STEL : 75 ppm 300 mg/m [*]	TWA 50 ppm
utanedioic acid dimethyl ester	106-65-0	No data	No data
sobutylacrylate	106-63-8	No data	No data
thylbenzene	100-41-4	TWA : 100 ppm 435 mg/m [*] STEL : 125 ppm 545 mg/m [*]	TWA 100 ppm

2. Environmental exposure control

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Technical conditions regarding atmosphere protection. Determination of pollutants emission produced by stationary sources rules.

- 3. Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment
- 4. Eye protection: Wear eye/face protection such as chemical goggles or face shield
- 5. Hand protection: For prolonged or repeated contact use solvent protective gloves. Barrier reams may help to protec the exposed areas of hand. However they should not be applied once exposure has occurred. Hand should be washed after contact
- 6. Skin protection: Personnel should wear protective clothing and antistatic footwear.
- 7. Additional: Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water

9. PHYSICAL AND CHEMICAL PROPERTIES

- 1. Appearance : colored and opaque liquid
- 2. Odor : solvent specific
- 3. pH : Not applicable
- 4. Solubility : Water-insoluble
- 5. Boiling point : No data
- 6. Melting point : No data
- 7. Explosive properties : No data

- 8. Oxidising properties : No data
- 9. Vapor pressure : No data
- 10. Specifice gravity : 1.08
- 11. Partition coefficient : No data
- 12. Vapor density : No data
- 13. Viscosity(25°C) : 100(-10+15)SEC
- 14. Molecular weight : No data

10.STABLITY AND REACTIVITY

1. Chemical stability

The product is stable if is kept in original recipient and according with recommendation.

- 2. Condition to avoid Avoid all possible sources of heat, electrostatic discharges, ignition(spark or flame).
 - Avoid storage at temperature higher than 35° and direct exposure in the sunlight.
- 3. Materials to avoid

Strong oxidative substances, strong acid, and alkaline solutions may give exothermic reactions in contact with this product.

4. Hazardous decomposition products

Thermo oxidative decomposition gives carbon monoxide, carbon dioxide, nitrogen oxides and a dense smoke, which contain other unidentified decomposition products. If this product is heated up to its decomposition temperature may lead to explosion.

11.TOXICOLOGICAL INFORMATION

1. Toxicity Information					
Chemical Name	LD50.0ral	LD50.Skin	LD50.Inhlation (gas)	LD50.Inhlation (vapour)	LD50.Inhlation (mist)
Barium sulfate, natural	LD50 > 3000 mg/kg Rat	No data	No data	No data	No data
3-Ethoxypropanoic acid ethyl ester	LD50 = 3200 mg/kg Rat	LD50 = 10000 mg/ kg rabbit	No data	No data	No data
Aluminium	No data	No data	No data	No data	No data
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11.TOXICOLOGICAL INFORMATION

Chemical Name	LD50.0ral	LD50.Skin	LD50.Inhlation (gas)	LD50.Inhlation (vapour)	LD50.Inhlation (mist)
Methylated 1,3,5-triazine-2,4,6-triamine, formaldehyde polymer	LD50 12.3 ml/kg Rat	No data	No data	No data	No data
Solvent naphtha (petroleum), light arom.	LD50 = 8400 mg/kg Rat	LD50 > 2000 mg/ kg Rabbit	NO DATA	LC50 = 5.160 mg/l 4 hr Rat	NO DATA
Solvent naphtha (petroleum), heavy arom.	LD50 > 5000 mg/kg Rat	LD50 > 2000 mg/ kg Rabbit	NO DATA	NO DATA	NO DATA
aphtha (petroleum), hydrotreated heavy	LD50 > 15000 mg/ kg Rat	LD50 > 3160 mg/ kg Rabbit	해당없음	자료없음	해당없음
exanedioic acid dimethyl ester	LD50 = 1920 mg/kg Rat	No data	No data	No data	No data
,3-Benzenedicarboxylic acid polymer with ,4-benzenedicarboxylic acid, ,2-dimethyl-1,3-propanediol, -ethyl-2-(hydroxymethyl)-1,3-propanediol and	No data	No data	No data	No data	No data
sophthalic acid polyester with adipic acid, 2dimethyl-1,3-propanediol, -ethyl-2-(hydroxymethyl)-1,3-propanediol and ,2-propanediol	No data	No data	No data	No data	No data
.4'-(1-Methylethylidene)bisphenol polymer ith .2'-[(1-methylethylidene)bis(4,1-phenyleneoxy	LD50 > 2000 mg/kg Rat	LD50 > 2000 mg/ kg Rabbit	No data	LD50 > 2000 mg/kg Rat	No data
2-Hydroxy-2-methylpropanoic acid methyl ester	No data	No data	No data	No data	No data
arbon black	LD50 = 15400 mg/ kg Rat	LD50 = 3000 mg/ kg rabbit	No data	No data	No data
y l ene	LD50 = 3523 mg/kg Rat	LD50 = 1100 mg/ kg	NO DATA	LC50 = 5922 ppm 4 hr Rat	NO DATA
entanedioic acid, dimethyl ester	LD50 = 1920 mg/kg Rat	LD50 = 8500 mg/ kg Rat	해당없음	자료없음	해당없음
yclohexanone	LD50 = 1535 mg/kg Rat	LD50 = 947 mg/kg Rabbit	자료없음	LD50 = 10.7 mg/kg 4 hr Rat	자료없음
ropylene glycol methyl ether acetate	LD50 = 8532 mg/kg Rat	LD50 > 5000 mg/ kg Rabbit	해당없음	Steam LC50 = 4345 ppm 6 hr Rat	해당없음
-Methyl-2-pentanone	LD50 = 2080 mg/kg Rat	LD50 > 16000 mg/ kg rabbit	해당없음	LC50 = 8.2~16.4 mg / ℓ Rat	해당없음
utanedioic acid dimethyl ester	LD50 > 5000 mg/kg Rat	LD50 > 5000 mg/ kg Rabbit	No data	No data	No data
sobutylacrylate	LD50 = 4895 mg/kg Rat	LD50 = 800 mg/kg Rabbit	Steam LC50 = 10.59 mg/ℓ 4 hr Rat	Steam LC50 = 10.59 mg/ ℓ 4 hr Rat	Steam LC50 = 10.59 mg/l 4 h

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11.TOXICOLOGICAL INFORMATION 1. Toxicity Information LD50.Inhlation LD50.Inhlation LD50.Inhlation LD50.0ral LD50.Skin Chemical Name (gas) (vapour) (mist) LD50 > 20000 mg/ kg Rabbit Ethylbenzene LD50 = 3500 mg/kgNO DATA NO DATA LC50=4000 ppm 4 hr Rat (Equivalents : Rat 12.ECOLOGICAL INFORMATION 1. Ecological Information Chemical Name LC50.fish LC50.water fleas LC50.algea EC50 1890.263 mg Barium sulfate, natural No data EC50 32 mg/ ℓ 48 hr Daphnia magna / l 96 hr $LC50 = 88 \text{ mg} / \ell$ $LC50 = 970 \text{ mg}/\ell 48$ 3-Ethoxypropanoic acid ethyl ester No data 96 hr Pimephales hr Daphnia magna Aluminium No data No data No data No data No data Methylated 1,3,5-triazine-2,4,6-triamine, formaldehyde polymer No data $= 9.22 \text{ mg}/\ell$ Solvent naphtha (petroleum), light arom. LC50 $EC50 = 6.14 \text{ mg}/\ell 48$ $EC50 = 19 \text{ mg}/\ell$ 96 hr hr Daphnia magna 72 hr Solvent naphtha (petroleum), heavy arom. $LC50 = 45 \text{ mg} / \ell$ $EC50 = 0.95 \text{ mg}/\ell 48$ $EC50 = 2.5 \text{ mg}/\ell$ 96 hr Pimephales hr Daphnia magna 72 hr LC50 = 2200 mg/ l Naphtha (petroleum), hydrotreated heavy $LC50 = 2.6 \text{ mg}/\ell 96$ No data 96 hr Pimephales hr (Species: LC50 = 87.095 mg/ Hexanedioic acid dimethyl ester No data EC50 = 6.691 mgℓ 96 hr ℓ 96 hr (No 1,3-Benzenedicarboxylic acid polymer with 1,4-benzenedicarboxylic acid, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol No data No data No data and hexanedioic acid lsophthalic acid polyester with adipic acid, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 1,2-propanediol No data No data No data 4,4'-(1-Methylethylidene)bisphenol polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] No data No data No data 2-Hydroxy-2-methylpropanoic acid methyl ester No data No data No data Carbon black No data $EC50 = 5600 \text{ mg}/\ell 24$ No data hr

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12.ECOLOGICAL INFORMATION

Chemical Name	LC50.fish	LC50.water fleas	LC50.algea
Xylene	LC50 2.6 mg/l 96	LC50 3.6 mg/l 24 hr	EC50 1.3 mg/ <i>l</i>
	hr (OECD	(OECD TG202)	48 hr (OECD
Pentanedioic acid, dimethyl ester	LC50 = 13400 mg/ ℓ 96 hr	EC50 = 3940 ~ 4670 mg/l 48 hr Daphnia	No data
Cyclohexanone	LC50 = 527 mg/l	EC50 = 820 mg/l 24	EC50 = 32.9 mg/
	96 hr Pimephales	hr Daphnia magna	ℓ 72 hr
Propylene glycol methyl ether acetate	LC50 ≥ 100 mg/ℓ	EC50 = 373 mg/l 48	EC50 ≥ 1000 mg,
	96 hr Oryzias	hr Daphnia magna	ℓ 72 hr
4-Methyl-2-pentanone	LC50 = 540 mg/l 96 hr	EC50 = 170 mg/l 48 hr	No data
Butanedioic acid dimethyl ester	LC50 = 50 ~ 100	LC50 = 3317.276 mg/	EC50 = 11.917 mg
	mg/l 96 hr	ℓ 48 hr	/ l 96 hr
Isobutylacrylate	LC50 = 2.09 mg/l	LC50 = 9.7 mg/l 48	EC50 = 3.18 mg/
	96 hr Pimephales	hr Daphnia magna	ℓ 72 hr
Ethylbenzene	LC50 = 5.1 mg/l	LC50 = 1.8 mg/l 48	EC50 2.6 mg/ℓ
	96 hr	hr Daphnia magna	96 hr 기타
			ł

2. Soil mobility : Not known

3. Persistence and degradability There is no specific data available on the product itself. The product should not be allowed to enter drains or watercourses or be deposited where they can affect ground or surface waters.

4. Potential bioaccumulation : Be possible.

13.DISPOSAL CONSIDERATION

- 1. Relevant insurance of legislation Dispose of in accordance with local regulations 2. Waste removal measures Waste must be disposed of in accordance with state and local environmental regulations. 3. Direction for the waste disposal
 - Preferred options for disposal are recycling, incineration with energy recovery, and landfill.

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14. TRANSPORT INFORMATION

- 1. Classification by shipping transportaiton dangerous substance and regulation of storage :
- Direction for transport
 The product must be kept in original container tightly closed and transport at normal temperature.
 International Martitie Dangerous Goods Code
 U.N Number
 : Not Applicable
 Shipping name
 : Not Applicable
 Hazard class
 : Not Applicable
 Packing group
 : Not Applicable
 4. Marine pollutant
 : Applicable
- 5. Special precautions for user related to transport or transportation measures
 - Ems FIRE SCHEDULE : F-E
 - EmS SPILLAGE SCHEDULE : S-E

15.REGULATORY INFORMATION

- 1. Article of KOREA OCCUPATIONAL SAFETY _HEALTY AGENCY : Not determined. Water-insoluble
- 2. Article of Harmful Chemical Substance : Xylene
- 3. Classify of The Fire Service Act : Fourth grade 2nd.Petroleum

16.0THER INFORMATION

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the data of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release is not to be considered a warranty or quality specification

The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

This information is based on technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.