1.CHEMICAL PRODUCT INFORMATION

Product Name	COILX6000 PBIV-0038-8N IA42	Color	IA42
Application	8. Coatings and paints, thinners, paints removers 8.1 Oil paint		
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 IDENTIFICATION

1.Classification of the substance

① FLAMMABLE LIQUIDS - category 3
② SKIN CORROSION/IRRITATION - category 2(Skin irritant)
③ ASPIRATION HAZARD - category 1
④ CARCINOGENICITY - category 1B
⑤ GERM CELL MUTAGENICITY - category 1B
⑥ REPRODUCTIVE TOXICITY - category 1B
⑦ SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - category 2
⑧ ACUTE TOXICITY (ORAL) - category 3
⑨ ACUTE TOXICITY (DERMAL) - category 3
⑩ ACUTE TOXICITY (INHALATION-VAPOR) - category 3
⑪ HAZARDOUS TO THE AQUATIC ENVIRONMENT(CHRONIC HAZARD) - chronic 3

2.GHS warning label elements, including precautionary statements

① Symbol :

② Signal word : Danger

③ Hazard statements : Toxic if swallowed
May cause damage to organs(state all organs affected, if known) through prolonged or repeated exposure(state route of exposure if it is conclusively proven that no other routes of explosure cause the
Toxic if inhaled
Causes skin irritation
May cause cancer(state route of exposure if it is conclusively proven that no other routes of explosure cause the hazard)
Flammable liquid and vapor
May damage fertility or the unborn child(state specific effect if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
May be fatal if swallowed and enters airways
Harmful to aquatic life with long lasting effects
Toxic in contact with skin
May cause henetic defects(state route of exposure if it is conclusively proven that no other routes of explosure cause the hazard)

④ Precautionary statements :
Prevention- Wash…thoroughly after handling.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Use explosion-proof[electrical/ventilating/lighting]equipment.
Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/…
Obtain special instructions before use.
Do not breathe dust/fume/gas/mist/vapours/spray.

④ Precautionary statements :

Prevention- Use only outdoors or in a wellventilated area.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed.
Ground and bond container and receiving equipment
Use non-sparking tools.
Take precautionary measures against static discharge.
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.
Take off immediately all contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
Specific treatment (see on this label).
IF ON SKIN(or hair) : Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
IF ON SKIN : Wash with plenty of water/…
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 cool.
Srore in a well-ventilated place. Keep container tightly closde.
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 %	
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 %	
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 21 ~ Under 30 %	
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 %	
Titanium dioxide	13463-67-7	More than 21 ~ Under 30 %	
Xylene	1330-20-7	More than 1 ~ Under 5 %	
Pentanedioic acid, dimethyl ester	1119-40-0	More than 1 ~ Under 10 %	

3.CHEMICAL COMPOSITION

Chemical Name	CAS NO.	Portion(%)	Remarks
Cyclohexanone	108-94-1	More than 1 ~ Under 10 %	
Butanedioic acid dimethyl ester	106-65-0	More than 1 ~ Under 10 %	
Isobutylacrylate	106-63-8	More than 0.1 ~ Under 1 %	
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.

5.FIRE FIGHTING MEASURES

1. Flash point : 60 ℃
2. Ignition temp : Not determined
3. Upper expolosion limit / Lower explosion limit : Not determined
4. The Fire Service Act : Fourth grade 2nd.Petroleum
5. Fire extinguisher : C02, 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.
7. Hazardous materials in combustion:
   Could be generated complexed mixture like solid and gas containing CO, S02 etc.
   Unidentified organic and inorganic compound.
8. Extinguishing method which must not used for safety : Not applicable

6.ACCIDENTAL RELEASE MEASURES

1. 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.
2. 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.
3. 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.
2. Storage
   The product must be kept in original container tightly closed. Store between 5~35℃ 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/㎥
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
Hexanedioic 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
4,4'-(1-Methylethylidene)bisphenol polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[c	25036-25-3	No data	No data
Titanium dioxide	13463-67-7	TWA : 10 mg/㎥	TWA 10 mg/m3
Xylene	1330-20-7	TWA : 100 ppm STEL : 150 ppm	STEL 150 ppm TWA 100 ppm
Pentanedioic acid, dimethyl ester	1119-40-0	No data	No data

8.EXPOSURE CONTROLS/PERSONAL PROTECTION

1. Exposure limit values

Chemical Name	Cas No	Interior provision	ACGHI
Cyclohexanone	108-94-1	TWA : 25 ppm 100 mg/㎥ STEL : 50 ppm 200 mg/㎥	TWA 20 ppm
Butanedioic acid dimethyl ester	106-65-0	No data	No data
Isobutylacrylate	106-63-8	No data	No data
Ethylbenzene	100-41-4	TWA : 100 ppm 435 mg/㎥ STEL : 125 ppm 545 mg/㎥	TWA 100 ppm

2. Environmental exposure control
   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 : 1.38
11. Partition coefficient : No data
12. Vapor density : No data
13. Viscosity(25℃) : 100±10sec
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.Oral	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
Methylated 1,3,5-triazine-2,4,6-triamine, formaldehyde polymer	LD50 12.3 ㎖/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
Hexanedioic acid dimethyl ester	LD50 = 1920 mg/kg Rat	No data	No data	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	No data	No data	No data	No data	No data
4,4'-(1-Methylethylidene)bisphenol polymer with 2,2'-[(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
Titanium dioxide	LD50 >2000 mg/kg Rat	NO DATA	NO DATA	NO DATA	LC50 > 6.82 mg/ℓ 4 hr Rat
Xylene	LD50 = 3523 mg/kg Rat	LD50 = 1100 mg/kg	NO DATA	LC50 = 5922 ppm 4 hr Rat	NO DATA
Pentanedioic acid, dimethyl ester	LD50 = 1920 mg/kg Rat	LD50 = 8500 mg/kg Rat	해당없음	자료없음	해당없음
Cyclohexanone	LD50 = 1535 mg/kg Rat	LD50 = 947 mg/kg Rabbit	자료없음	LD50 = 10.7 mg/kg 4 hr Rat	자료없음
Butanedioic acid dimethyl ester	LD50 > 5000 mg/kg Rat	LD50 > 5000 mg/kg Rabbit	No data	No data	No data
Isobutylacrylate	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 hr
Ethylbenzene	LD50 = 3500 mg/kg Rat	LD50 > 20000 mg/kg Rabbit	NO DATA	LC50=4000 ppm 4 hr Rat (Equivalents :	NO DATA

12.ECOLOGICAL INFORMATION

1. Ecological Information

Chemical Name	LC50.fish	LC50.water fleas	LC50.algea
Barium sulfate, natural	No data	EC50 32 mg/ℓ 48 hr Daphnia magna	EC50 1890.263 mg/ℓ 96 hr

12.ECOLOGICAL INFORMATION

1. Ecological Information

Chemical Name	LC50.fish	LC50.water fleas	LC50.algea
Methylated 1,3,5-triazine-2,4,6-triamine, formaldehyde polymer	No data	No data	No data
Solvent naphtha (petroleum), light arom.	LC50 = 9.22 mg/ℓ 96 hr	EC50 = 6.14 mg/ℓ 48 hr Daphnia magna	EC50 = 19 mg/ℓ 72 hr
Hexanedioic acid dimethyl ester	LC50 = 87.095 mg/ℓ 96 hr	No data	EC50 = 6.691 mg/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 and hexanedioic acid	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
Titanium dioxide	LC50 > 100 mg/ℓ 96 hr Carassius	LC50 > 500 mg/ℓ 48 hr Daphnia magna	EC50 > 50 mg/ℓ 72 hr
Xylene	LC50 2.6 mg/ℓ 96 hr (OECD	LC50 3.6 mg/ℓ 24 hr (OECD TG202)	EC50 1.3 mg/ℓ 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 96 hr Pimephales	EC50 = 820 mg/ℓ 24 hr Daphnia magna	EC50 = 32.9 mg/ℓ 72 hr
Butanedioic acid dimethyl ester	LC50 = 50 ~ 100 mg/ℓ 96 hr	LC50 = 3317.276 mg/ℓ 48 hr	EC50 = 11.917 mg/ℓ 96 hr
Isobutylacrylate	LC50 = 2.09 mg/ℓ 96 hr Pimephales	LC50 = 9.7 mg/ℓ 48 hr Daphnia magna	EC50 = 3.18 mg/ℓ 72 hr
Ethylbenzene	LC50 = 5.1 mg/ℓ 96 hr	LC50 = 1.8 mg/ℓ 48 hr Daphnia magna	EC50 2.6 mg/ℓ 96 hr 기타

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

13.DISPOSAL CONSIDERATION

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.

14.TRANSPORT INFORMATION

1. Classification by shipping transportaiton dangerous substance and regulation of storage :
2. Direction for transport

The product must be kept in original container tightly closed and transport at normal temperature.

3. International Martitie Dangerous Goods Code

U.N Number : 1263

Shipping name : PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquerbase) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)

Hazard class : 3

Packing group : 3

4. Marine pollutant : Not 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.OTHER 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.