1.CHEMICAL PRODUCT INFORMATION

Product Name	KSM 6020 Type 2 Enamel Gloss Class 2 White	Color	
Application	Architecture paint for wood and steel	8. Coatings and paints, thinners, paints removers 8.1 Oil paint	
Manufacture	SP SAMHWA 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 ACUTE TOXICITY (DERMAL) - category 4
③ CARCINOGENICITY - category 1B
④ GERM CELL MUTAGENICITY - category 1B
⑤ REPRODUCTIVE TOXICITY - category 2
⑥ ASPIRATION HAZARD - category 1
⑦ HAZARDOUS TO THE AQUATIC ENVIRONMENT(CHRONIC HAZARD) - chronic 2

2.GHS warning label elements, including precautionary statements

① Symbol :



② Signal word : Danger

③ Hazard statements : May cause henetic defects
May cause cancer
Suspected of damaging fertility or the unborn child
Flammable liquid and vapor
May be fatal if swallowed and enters airways
Toxic to aquatic life with long lasting effects
Harmful in contact with skin

④ Precautionary statements :

Prevention- Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
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 explosion-proof[electrical/ventilating/lighting]equipment.
Use non-sparking tools.
Take precautionary measures against static discharge.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/…

Response- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN : Wash with plenty of water/…
IF ON SKIN(or hair) : Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment (see on this label).
Do NOT induce vomiting.
Take off contaminated clothing and wash it before reuse.
In case of fire: Use Suitable extinguishing media for extinction.(Refer Section MSDS 5)

④ Precautionary statements :

Response- Collect spillage.

Storage- Srore in a well-ventilated place. KEEP cool.
Store locked up.

Disposal- Dispose of contents/container to ralate laws and regulations.

3.CHEMICAL COMPOSITION

Chemical Name	CAS NO.	Portion(%)	Remarks
Distillates (petroleum), hydrotreated light	64742-47-8	More than 30 ~ Under 40 %	
Fatty acids, vegetable-oil polymer with phtalic anhydride, pentaerythritol, 1,2-ethanediol and glycerol dehydrated castor oil fatty acid	7-2410-03365	More than 20 ~ Under 30 %	
Fatty acids, vegetable-oil polymer with phtalic anhydride and glycerol	161050-36-8	More than 10 ~ Under 20 %	
Titanium dioxide	13463-67-7	More than 10 ~ Under 20 %	
Methanol ; Methyl alcohol	67-56-1	More than 0.1 ~ Under 1 %	
Naphtha (petroleum), hydrodesulfurized heavy	64742-82-1	More than 0.1 ~ Under 1 %	
Kerosine (petroleum), hydrodesulfurized	64742-81-0	More than 0.1 ~ Under 1 %	
Dimethyl carbonate	616-38-6	More than 1 ~ Under 10 %	
2-Ethylhexanoic acid cobalt salt	13586-82-8	More than 0.1 ~ Under 1 %	
Xylene	1330-20-7	More than 1 ~ Under 10 %	
4-Methyl-2-pentanone oxime	105-44-2	More than 1 ~ Under 10 %	
Ethylbenzene	100-41-4	More than 0.1 ~ Under 1 %	

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

4.HEALTH HAZARD INFORMATION

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 : 38 ℃
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 : 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.
7. 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

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
Wear protective gear before handling.
Avoid contact with skin or eyes.
Avoid breathing vapor or dust.
Use only up well-ventilated areas.
Take precautionary measures against static charges, fire, sources, heat generation and spark.
Becareful physical shock and pressure.

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.
Vapors may form explosive mixtures.

7.HANDLING AND STORAGE

Adhere to work practice rules established by government regulations.

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
Methanol ; Methyl alcohol	67-56-1	TWA : 200 ppm 260 mg/㎥ STEL : 250 ppm 310 mg/㎥	TWA 200 ppm
Naphtha (petroleum), hydrodesulfurized heavy	64742-82-1	No data	No data
Kerosine (petroleum), hydrodesulfurized	64742-81-0	No data	No data
Distillates (petroleum), hydrotreated light	64742-47-8	No data	TWA 200 mg/㎥
Dimethyl carbonate	616-38-6	No data	No data
Fatty acids, vegetable-oil polymer with phtalic anhydride and glycerol	161050-36-8	No data	No data
2-Ethylhexanoic acid cobalt salt	13586-82-8	TWA : 0.02 mg/㎥	Not available
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
4-Methyl-2-pentanone oxime	105-44-2	No data	No data
Ethylbenzene	100-41-4	TWA : 100 ppm STEL : 125 ppm	TWA 125 ppm
Fatty acids, vegetable-oil polymer with phtalic anhydride, pentaerythritol, 1,2-ethanediol and glycerol dehydrated castor oil fatty acid	)7-2410-03365(	No data	No data

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 : milk-white 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. Specific Gravity : 1.04
11. Partition coefficient : No data
12. Vapor density : No data
13. Viscosity(25℃) : 75~90
14. Molecular weight : No data

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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.

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11.TOXICOLOGICAL INFORMATION

1. Toxicity Information

Chemical Name	LD50.Oral	LD50.Skin	LD50.Inhlation (gas)	LD50.Inhlation (vapour)	LD50.Inhlation (mist)
Distillates (petroleum), hydrotreated light	LD50 > 15000 mg/kg Rat	LD50 > 2000 mg/kg Rabbit	해당없음	Mist LC50 > 5.2 mg/ℓ 4 hr Rat	해당없음
Fatty acids, vegetable-oil polymer with phtalic anhydride, pentaerythritol, 1,2-ethanediol and glycerol dehydrated castor oil fatty acid	No data	No data	No data	No data	No data
Fatty acids, vegetable-oil polymer with phtalic anhydride and glycerol	No data	No data	No data	No data	No data
Titanium dioxide	LD50 >2000 mg/kg Rat	No data	No data	No data	LC50 > 6.82 mg/ℓ 4 hr Rat
Dimethyl carbonate	LD50 >5,000 mg/kg Rat	LD50 >2,000 mg/kg Rabbit	해당없음	LC50 >5.36 mg/ℓ 4 hr Rat	해당없음
Xylene	LD50 = 3523 mg/kg Rat	LD50 = 1100 mg/kg	No data	LC50 = 5922 ppm 4 hr Rat	No data
4-Methyl-2-pentanone oxime	No data	No data	No data	No data	No data

11.TOXICOLOGICAL INFORMATION

1. Toxicity Information

Chemical Name	LD50.Oral	LD50.Skin	LD50.Inhlation (gas)	LD50.Inhlation (vapour)	LD50.Inhlation (mist)
Naphtha (petroleum), hydrodesulfurized heavy	LD50 >5000 mg/kg Rat	LD50 >3160 mg/kg Rabbit	No data	No data	No data
Kerosine (petroleum), hydrodesulfurized	LD50 > 5000 mg/kg Rat	LD50 > 2000 mg/kg Rabbit	dust LC50 > 5.2 mg/ℓ 4 hr Rat	dust LC50 > 5.2 mg/ℓ 4 hr Rat	dust LC50 > 5.2 mg/ℓ 4 hr Rat
Methanol ; Methyl alcohol	LD50 100 mg/kg Rat	LD50 300 mg/kg Rabbit	해당없음	증기 LC50 82.1 mg/ℓ 6 hr	해당없음
2-Ethylhexanoic acid cobalt salt	No data	No data	No data	No data	No data
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
Distillates (petroleum), hydrotreated light	LC50 = 2.4 mg/ℓ 96 hr	No data	No data
Fatty acids, vegetable-oil polymer with phtalic anhydride, pentaerythritol, 1,2-ethanediol and glycerol dehydrated castor oil fatty acid	No data	No data	No data
Fatty acids, vegetable-oil polymer with phtalic anhydride and glycerol	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
Dimethyl carbonate	자료없음	자료없음	자료없음
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
4-Methyl-2-pentanone oxime	No data	No data	No data
Naphtha (petroleum), hydrodesulfurized heavy	No data	No data	No data
Kerosine (petroleum), hydrodesulfurized	LC50 = 45 mg/ℓ 96 hr Pimephales	EC50 = 21mg/L/48hr Daphnia magna	No data

12.ECOLOGICAL INFORMATION

1. Ecological Information

Chemical Name	LC50.fish	LC50.water fleas	LC50.algea
Methanol ; Methyl alcohol	LC50 15400 mg/ℓ 96 hr Lepomis	LD50 > 100 mg/ℓ 96 hr Daphnia magna	No data
2-Ethylhexanoic acid cobalt salt	LC50 = 158.963 mg/ℓ 96 hr	LC50 = 103.305 mg/ℓ 48 hr	EC50 = 74.398 mg/ℓ 96 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
   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
   - Air transport(IATA) : 1263

15.REGULATORY INFORMATION

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

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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.