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## 1. CHEMICAL PRODUCT INFORMATION

Product Name	STARCOAT310 ABP-2(3)<A>	Color	
Application	TOPCOAT FOR AUTOMOTIVE REFINISH	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 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - category 1
- ③ SKIN CORROSION/IRRITATION - category 2(Skin irritant)
- ④ ASPIRATION HAZARD - category 1
- ⑤ CARCINOGENICITY - category 1B
- ⑥ GERM CELL MUTAGENICITY - category 1B
- ⑦ SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - category 2
- ⑧ REPRODUCTIVE TOXICITY - category 1B
- ⑨ ACUTE TOXICITY (DERMAL) - category 4
- ⑩ ACUTE TOXICITY (INHALATION-VAPOR) - category 4
- 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 : Causes damage to organs(or state all organs affected, if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)  
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 exposure cause the hazard)  
Causes skin irritation  
May cause cancer(state route of exposure if it is conclusively proven that no other routes of exposure 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 in contact with skin  
Harmful to aquatic life with long lasting effects  
May cause genetic defects(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)  
Harmful if inhaled

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.

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④ Precautionary statements :

- Prevention- 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  
 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.  
 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.  
 IF exposed: Call a POISON CENTER or doctor/physician.  
 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/...  
 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- Store in a well-ventilated place. KEEP cool.  
 Store locked up.
- Disposal- Dispose of contents/container to relate laws and regulations.

### 3.CHEMICAL COMPOSITION

Chemical Name	CAS NO.	Portion(%)	Remarks
Solvent naphtha (petroleum), light arom.	64742-95-6	More than 1 ~ Under 10 %	
2-Methyl-2-Propenoic acid, polymer with 2-ethylhexyl 2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	61579-38-2	More than 1 ~ Under 10 %	
C.I. pigment blue 029	57455-37-5	More than 1 ~ Under 10 %	
Styrene, n-butyl acrylate, 2-hydroxyethyl acrylate, methacrylic acid copolymer	34407-02-8	More than 11 ~ Under 20 %	
2-Methyl-2-propenoic acid 2-hydroxyethyl ester polymer with butyl 2-propenoate and ethenylbenzene	26916-03-0	More than 11 ~ Under 20 %	
Carbon black	1333-86-4	More than 1 ~ Under 10 %	
Xylene	1330-20-7	More than 1 ~ Under 5 %	
n-Butyl acetate	123-86-4	More than 11 ~ Under 20 %	
Toluene	108-88-3	More than 0.1 ~ Under 1 %	
Propylene glycol methyl ether acetate	108-65-6	More than 1 ~ Under 10 %	

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### 3.CHEMICAL COMPOSITION

Chemical Name	CAS NO.	Portion(%)	Remarks
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 : 23 °C
2. Ignition temp : Not determined
3. Upper explosion 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

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## 6.ACCIDENTAL RELEASE MEASURES

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
Solvent naphtha (petroleum), light arom.	64742-95-6	No data	No data
2-Methyl-2-Propenoic acid, polymer with 2-ethylhexyl 2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	61579-38-2	No data	No data
C.I. pigment blue 029	57455-37-5	No data	No data
Styrene, n-butyl acrylate, 2-hydroxyethyl acrylate, methacrylic acid copolymer	34407-02-8	No data	No data
2-Methyl-2-propenoic acid 2-hydroxyethyl ester polymer with butyl 2-propenoate and ethenylbenzene	26916-03-0	No data	No data
Carbon black	1333-86-4	TWA : 3.5 mg/m <sup>3</sup>	TWA 3.5 mg/m <sup>3</sup>
Xylene	1330-20-7	TWA : 100 ppm STEL : 150 ppm	STEL 150 ppm TWA 100 ppm
n-Butyl acetate	123-86-4	TWA : 150 ppm 710 mg/m <sup>3</sup> STEL : 200 ppm 950 mg/m <sup>3</sup>	TWA 150 ppm
Toluene	108-88-3	TWA : 50 ppm 188 mg/m <sup>3</sup> STEL : 150 ppm 560 mg/m <sup>3</sup>	TWA 50 ppm
Propylene glycol methyl ether acetate	108-65-6	No data	No data
Ethylbenzene	100-41-4	TWA : 100 ppm 435 mg/m <sup>3</sup> STEL : 125 ppm 545 mg/m <sup>3</sup>	TWA 100 ppm

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- Environmental exposure control  
Technical conditions regarding atmosphere protection. Determination of pollutants emission produced by stationary sources rules.
- Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment
- Eye protection: Wear eye/face protection such as chemical goggles or face shield
- Hand protection: For prolonged or repeated contact use solvent protective gloves. Barrier reams may help to protect the exposed areas of hand. However they should not be applied once exposure has occurred. Hand should be washed after contact
- Skin protection: Personnel should wear protective clothing and antistatic footwear.
- 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 | 8. Oxidising properties : No data   |
| 2. Odor : solvent specific                | 9. Vapor pressure : No data         |
| 3. pH : Not applicable                    | 10. Specific gravity : 1.021        |
| 4. Solubility : Water-insoluble           | 11. Partition coefficient : No data |
| 5. Boiling point : No data                | 12. Vapor density : No data         |
| 6. Melting point : No data                | 13. Viscosity(25°C) : 75KU          |
| 7. Explosive properties : No data         | 14. Molecular weight : No data      |

## 10. STABILITY AND REACTIVITY

- Chemical stability  
The product is stable if is kept in original recipient and according with recommendation.
- Condition to avoid  
Avoid all possible sources of heat, electrostatic discharges, ignition(spark or flame).  
Avoid storage at temperature higher than 35°C and direct exposure in the sunlight.
- Materials to avoid  
Strong oxidative substances, strong acid, and alkaline solutions may give exothermic reactions in contact with this product.
- 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.Inhalation (gas)	LD50.Inhalation (vapour)	LD50.Inhalation (mist)
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
2-Methyl-2-Propenoic acid, polymer with 2-ethylhexyl 2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	No data	No data	No data	No data	No data
C.I. pigment blue 029	LD50 10000 mg/kg Rat	No data	No data	No data	No data

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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)
Styrene, n-butyl acrylate, 2-hydroxyethyl acrylate, methacrylic acid copolymer	No data	No data	No data	No data	No data
2-Methyl-2-propenoic acid 2-hydroxyethyl ester polymer with butyl 2-propenoate and ethenylbenzene	No data	No data	No data	No data	No data
Carbon black	LD50 = 15400 mg/kg Rat	LD50 = 3000 mg/kg rabbit	No data	No data	No data
Xylene	LD50 = 3523 mg/kg Rat	LD50 = 1100 mg/kg	NO DATA	LC50 = 5922 ppm 4 hr Rat	NO DATA
n-Butyl acetate	LD50 = 13100 mg/kg Rat	LD50 > 17600 mg/kg Rabbit	자료없음	LD50 > 21.1 mg/kg Rat	자료없음
Toluene	LD50 = 5580 mg/kg Rat	LD50 > 5000 mg/kg Rabbit	NO DATA	LC50 > 20 mg/ℓ Rat	NO DATA
Propylene glycol methyl ether acetate	LD50 = 8532 mg/kg Rat	LD50 > 5000 mg/kg Rabbit	해당없음	Steam LC50 = 4345 ppm 6 hr Rat	해당없음
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.algae
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
2-Methyl-2-Propenoic acid, polymer with 2-ethylhexyl 2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	No data	No data	No data
C.I. pigment blue 029	No data	No data	No data
Styrene, n-butyl acrylate, 2-hydroxyethyl acrylate, methacrylic acid copolymer	No data	No data	No data
2-Methyl-2-propenoic acid 2-hydroxyethyl ester polymer with butyl 2-propenoate and ethenylbenzene	No data	No data	No data
Carbon black	No data	EC50 = 5600 mg/ℓ 24 hr	No data

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## 12.ECOLOGICAL INFORMATION

### 1. Ecological Information

Chemical Name	LC50.fish	LC50.water fleas	LC50.algae
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)
n-Butyl acetate	LC50 = 62 mg/ℓ 96 hr	LC50 = 32 mg/ℓ 48 hr	No data
Toluene	LC50 5.5 mg/ℓ 96 hr Oncorhynchus	EC50 3.78 mg/ℓ 48 hr Ceriodaphnia	EC50 134 mg/ℓ 3 hr Chlorella
Propylene glycol methyl ether acetate	LC50 ≥ 100 mg/ℓ 96 hr Oryzias	EC50 = 373 mg/ℓ 48 hr Daphnia magna	EC50 ≥ 1000 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

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 transportation 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 Maritime 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 \_HEALTHY AGENCY : Not determined. Water-insoluble
2. Article of Harmful Chemical Substance : Xylene,Toluene
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.