

AA00242-3211133014	MATERIAL SAFETY DATA SHEET	Date of Issue	2006-07-28
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1. CHEMICAL PRODUCT INFORMATION

Product Name	SUPERZINC 190BG(E) <A>	Color	
Application	INORGANIC ZINC RICH PRIMER 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 ACUTE TOXICITY (INHALATION-VAPOR) - category 4
- ③ EYE DAMAGE/IRRITATION - category 2 (Irritating to eye)
- ④ CARCINOGENICITY - category 2
- ⑤ GERM CELL MUTAGENICITY - category 1B
- ⑥ REPRODUCTIVE TOXICITY - category 1A
- ⑦ SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - category 1
- ⑧ SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - category 3(respiratory)
- ⑨ ASPIRATION HAZARD - category 1

2. GHS warning label elements, including precautionary statements



① Symbol :

② Signal word : Danger

③ Hazard statements : Causes serious eye irritation

May cause respiratory irritation

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)

Suspected of causing 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 cause genetic defects(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

May be harmful if swallowed and enters airways

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.

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.

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④ Precautionary statements :

- Prevention- Take precautionary measures against static discharge.
Do not eat, drink or smoke when using this product.
- Response- Do NOT induce vomiting.
IF exposed or concerned: Get medical advice/attention.
IF exposed: Call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN(or hair) : Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
Specific treatment (see on this label).
If eye irritation persists: Get medical advice/attention.
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)
Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- Storage- Store in a well-ventilated place. KEEP cool.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
- Disposal- Dispose of contents/container to relate laws and regulations.

3.CHEMICAL COMPOSITION

Chemical Name	CAS NO.	Portion(%)	Remarks
Propylene glycol methyl ether	107-98-2	More than 31 ~ Under 40 %	
Silicic acid ethyl ester	11099-06-2	More than 21 ~ Under 30 %	
Kaolin	1332-58-7	More than 11 ~ Under 20 %	
2-Propanol	67-63-0	More than 11 ~ Under 20 %	
Water	7732-18-5	More than 1 ~ Under 10 %	
Tetraethoxy silane	78-10-4	More than 1 ~ Under 10 %	
Ethylbenzene	100-41-4	More than 1 ~ Under 10 %	
Ethanol	64-17-5	More than 0.1 ~ Under 1 %	

4.HEALTH HAZARD INFORMATION

- Eye contact
Wash off immediately with plenty of water, also under the eyelids, for at least 20 minutes.
Call a physician immediately.
- Skin contact
Remove the contaminated clothes and the skin will be washed with water and soap.
Do not use solvents.
- Inhalation

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4.HEALTH HAZARD INFORMATION

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 : 25 °C

2. Ignition temp : Not determined

3. Upper expolusion 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

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°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.

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7. HANDLING AND STORAGE

Adhere to work practice rules established by government regulations

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

1. Exposure limit values

Chemical Name	Cas No	Interior provision	ACGIH
Propylene glycol methyl ether	107-98-2	TWA : 100 ppm 360 mg/m ³ STEL : 150 ppm 540 mg/m ³	TWA 100 ppm
Silicic acid ethyl ester	11099-06-2	No data	No data
Kaolin	1332-58-7	TWA : 2 mg/m ³	TWA 2 mg/m ³
2-Propanol	67-63-0	TWA : 200 ppm 480 mg/m ³ STEL : 400 ppm 980 mg/m ³	STEL 400 ppm TWA 200 ppm
Water	7732-18-5	No data	No data
Tetraethoxy silane	78-10-4	TWA : 10 ppm 85 mg/m ³	TWA 10 ppm
Ethylbenzene	100-41-4	TWA : 100 ppm 435 mg/m ³ STEL : 125 ppm 545 mg/m ³	TWA 100 ppm
Ethanol	64-17-5	TWA : 1000 ppm 1900 mg/m ³	TWA 1000 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 protect 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. Specific gravity : 1.06

11. Partition coefficient : No data

12. Vapor density : No data

13. Viscosity(25°C) : 74KU 이상

14. Molecular weight : No data

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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.Inhlation (gas)	LD50.Inhlation (vapour)	LD50.Inhlation (mist)
Propylene glycol methyl ether	LD50 > 5000 mg/kg Rat	LD50 = 13000 mg/kg Rabbit	해당없음	LC50 = 18.2 mg/ℓ 7 hr Rat	해당없음
Silicic acid ethyl ester	No data	No data	No data	No data	No data
Kaolin	No data	No data	No data	No data	No data
2-Propanol	LD50 = 4710mg/kg Rat	LD50 = 12870 mg/kg rabbit	해당없음	LC50 = 72600 mg/ℓ 4 hr Rat	해당없음
Water	LD50 90000 mg/kg Rat	No data	No data	No data	No data
Tetraethoxy silane	LD50 = 6270 mg/kg Rat	LD50 = 5859 mg/kg rabbit	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
Ethanol	LD50 = 7060 mg/kg Rat	NO DATA	NO DATA	LC50 = 116.9 mg/ℓ 4 hr Rat	NO DATA

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12.ECOLOGICAL INFORMATION

1. Ecological Information

Chemical Name	LC50.fish	LC50.water fleas	LC50.algae
Propylene glycol methyl ether	No data	EC50 > 500 mg/ℓ 48 hr	No data
Silicic acid ethyl ester	LC50 = 28361.943 mg/ℓ 96 hr	LC50 = 25184.656 mg/ℓ 48 hr	EC50 = 13462.816 mg/ℓ 96 hr
Kaolin	No data	No data	No data
2-Propanol	LC50 > 100 mg/ℓ 96 hr	자료없음	EC50 = 2.2 mg/ℓ 96 hr
Water	No data	No data	No data
Tetraethoxy silane	No data	No data	No data
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
Ethanol	LC50 > 100 mg/ℓ 96 hr Pimephales	LC50 = 5012 mg/ℓ 48 hr Ceriodaphnia	ErC50 275 mg/ℓ 72 hr Chlorella

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 & HEALTH AGENCY : Not determined. Water-insoluble
2. Article of Harmful Chemical Substance :
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 date 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.