

PRODUCT	PL-500	M S D S (MATERIAL SAFETY DATA SHEET) * According to 1907/2006 EC	CREATION DATE	2011. 06. 21
SERIAL NO.	KPM-08-006		REVISION	5th
PROCESS	HiRENOL		REVISION DATE	2017. 10. 30

1. Product and company identification

- a) Product Name : **HiRENOL PL-500**
- b) Chemical Name : Phenol, styrenated
- c) Registry Number : CAS Number 61788-44-1
- d) REACH pre-registration number : 17-2119949767-17-0000 (till 2018)
- e) Recommended use of the chemical and restrictions on use
- Recommended use : Epoxy plasticizer for paint and flooring
 - Restrictions on use : Industries can be used only / Strictly prohibited firearms
- f) Manufacturer/Supplier/Distributor Information
- Name : Kolon Industries, Inc.
 - Address : (H/Office) Kolon Tower, 1-23 Byeoryang-dong, Gwacheon-si, Gyeonggi-do, Korea
(Plant) 1348 Daegwang-dong, Gimcheon-si, Gyeongsangbuk-do, Korea
(R&D Center) 294 Gajwa-dong, Seo-gu, Incheon-si, Korea
 - Emergency or Information Contact, Responsible department :
(H/Office) Industrial Resin Business 1 Team. 02-3677-6100
(Plant) Industrial Resin Production 1 Team. 054-420-0141 / Technical Team. 054-420-0183
(R&D Center) 6 Research Group. 032-580-0933

2. Hazard identification

※ Classification according to Regulation(EC) No 1272/2008

- a) Hazard-Risk Classification
- Skin Corrosion/Irritation : Category 2
 - Serious Eye Damage/Irritation : Category 2
 - Specific target organ toxicity(single exposure) : Category 3
- b) Label elements including precautionary statements
- Symbol



- Signal Word : Warning
- Hazard-Risk Statement
 - H315 Causes skin irritation
 - H319 Cause serious eye irritation
 - H335 May cause respiratory organ irritation
- Precautionary Statement
 - * Prevention**
 - P261 Avoid breathing dust/fume/bas/mist/vapors/spray.
 - P264 Wash... thoroughly after handling.
 - P271 Use only outdoors or in a well-ventilated area.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection.
 - * Response**
 - P302+P352 If on skin : Wash with plenty of soap and water.
 - P304+P340 If inhaled : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P305+P351+P338 If in eyes : Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.

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P312 Call a Poison Center or doctor/physician if you feel unwell.

P321 Specific treatment.

P332+P313 If skin irritation occurs : Get medical advice/attention.

P337+P313 If eye irritation persists : Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

*** Storage**

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

*** Disposal**

P501 (According to the regulations set forth in the relevant information)Dispose of contents/container.

c) Other Hazard-Risk which are not included in the classification criteria

Chemical Name	NFPA Level (0~4 Step)		
	Health	Fire	Reactive
Phenol, styrenated	1	1	0

3. Composition/Information on ingredients

Chemical Name	Other Name	CAS No.	Content(%)
Phenol, styrenated	-	61788-44-1	100

4. First aid measures

- Eye contact : Rinse for a prolonged period with plenty of water. Take care of doctors immediately.
- Skin contact : Remove contaminated clothing and shoes, Rinse for a prolonged period with plenty of water.
- Inhalation : Go to uncontaminated areas and inhale fresh air. Difficulty breathing, to supply oxygen.
- Ingestion : Get to a doctor immediately or call the Emergency Center.
- Acute and delayed symptoms/effects : Not available.
- Indication of immediate medical attention and notes for physician : Treat depend on condition of patient.

5. Fire-Fighting measures

- Suitable(and unsuitable) extinguishing media
 - Suitable : Powder fire extinguishers, Carbon dioxide, Water, Foam.
 - Unsuitable : Not available.
- Specific hazards arising from the chemical
 - Thermal decomposition products : Carbon oxide, Hydrocarbon gas.
 - Fires and an explosive risk : Slightly fire risk.
- Special protective equipment and precautions for fire-fighters
 - If you can do it without the risk of fire, To move a container from the fire area round.
 - After hours of the fire off, cooling water poured round container.
 - Do not inhale the substance itself or the burning artifact, Standing Against the wind will work.

6. Accidental release measures

- Personal precautions, protective equipment and emergency procedures
 - Heat, flame, a spark or other ignition source was to avoid contact with products.
 - To avoid a eye contact, skin contact.
- Environmental precautions and protective procedures

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- Atmosphere : Spread water for reduce the occurrence of steam
- Land : To save the acceptance region and make an embankment for further processing
- Underwater : Covered with pad, Remove by using suction hose
- c) Methods and materials for containment and cleaning up
 - Small leak : Absorb with sand or uncombustible materials. Cover the surface of contaminated.
 - Massive leak : Remove all sources of ignition and isolate the risk area, Limited an entry
Use the appropriate tool, Put it in a container

7. Handling and Storage

- a) Precautions for safe handling
 - To avoid a skin contact, eye contact.
 - All container to be grounded.
- b) Conditions for safe storage
 - To avoid direct sunlight and will be kept in cool, dry place
 - To avoid strong oxidizing agent, acid and other damage materials
 - Avoid strong oxidizing agent, acid and other damage materials

8. Exposure controls & personal protection

- a) Control parameters (e.g. occupational exposure limit values, biological limit values)

Chemical Name	CAS No.	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Phenol, styrenated	61788-44-1	-	-	-	-

- b) Appropriate engineering controls
 - To install Local exhaust, process sealed ventilation system.
 - To determine whether it was appropriate for the exposure standards
 - To prevent damage and corrosion of the container and prevent the leak from the lid was sealed
- c) Personal protective equipment
 - Respiratory protection : Mask for organic chemical material, Air respiratory organ
 - Eye protection : Chemical Goggle
 - Hands protection : Protective gloves(chemical resistance)
 - Body protection : Safety shoes and clothes(chemical resistance)

9. Physical and chemical properties

- a) Appearance : Yellowish, viscous liquid
- b) Odour : Not available
- c) Odour threshold : Not available
- d) pH : Not available
- e) Melting point/Freezing point : Not available
- f) Initial boiling point and boiling range : Not available
- g) Flashing point : 186°C (KTR)
- h) Evaporation rate : Not available
- i) Flammability(solid, gas) : Not applicable
- j) Upper/lower flammability or explosive limits : Not available
- k) Vapor pressure : Not available
- l) Solubility : Insoluble(water), Soluble(alcohol, ketone, toluene, xylene)

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- m) Vapor density : Not available
- n) Relative density : 1.00 ~ 1.10
- o) Partition coefficient(n-octanol/water) : Not available
- p) Auto-ignition temperature : Not available
- q) Decomposition temperature : Not available
- r) Viscosity : 400 ~ 1,000cps (@25°C)
- s) Formula mass : 400 ~ 800

10. Stability and reactivity

- a) Chemical stability : Stable in room temperature and atmospheric pressure
- b) Possibility of hazardous reactions : Not available
- c) Conditions to avoid (e.g. static discharge, shock or vibration, etc)
 - Heat, flame, spark or other ignition source was to avoid contact with products.
- d) Incompatible materials : Strong acid, strong oxidizing agent, halogen, flammable materials
- e) Hazardous decomposition products : Carbon oxide, hydrocarbon gas

11. Toxicological information

- a) Information on the likely routes of exposure : Not available
- b) Delayed and immediate effects as well as chronic effects from short and long term exposure
 - Acute toxicity(Oral) : Not available
 - Acute toxicity(Dermal) : Not available
 - Acute toxicity(Inhalation:Gas) : Not applicable
 - Acute toxicity(Inhalation:Vapor) : Not available
 - Acute toxicity(Inhalation:Dust,Mist) : Not available
 - Skin Corrosion/Irritation : Category 2 - May cause skin irritation
 - Serious Eye Damage/Irritation : Category 2 - May cause eye irritation
 - Respiratory sensitizer : Not available
 - Skin Sensitization : Not available
 - Carcinogenicity : Not available
 - Mutagenicity : Not available
 - Reproductive toxicity : Not available
 - Specific target organ toxicity(single exposure) : Category 3 - May cause respiratory organ irritation
 - Specific target organ toxicity(repeated exposure) : Not available
 - Aspiration Hazard : Not available
- c) Numerical measures of toxicity : Not available

12. Ecological information

- a) Aquatic and terrestrial ecotoxicity
 - Fish : Not available
 - Shellfish : Not available
 - Bird : Not available
- b) Persistence and degradability
 - Persistence : Not available
 - Degradability : Not available
- c) Bioaccumulative potential
 - Biodegradable : Not available

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- Enrichment : Not available
- d) Mobility in soil : Not available
- e) Other adverse effects : Not available

13. Disposal considerations

- a) Disposal method : In the process itself was a legitimate facility or waste disposal companies
- b) Disposal precaution : Review federal, provincial and local government requirements prior to disposal.

14. Transport information

- a) UN number : Not assigned
- b) UN proper shipping name : Not assigned
- c) Transport hazard class : Not assigned
- d) Packing group : Not assigned
- e) Marine pollution : Not available
- f) Special precaution which a user to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises
 - Emergency measures(Fire) : Not assigned
 - Emergency measures(Leak) : Not assigned

15. Regulatory information

- a) Industrial safety and health act : Not applicable
- b) Toxic chemical control act : Not applicable
- c) Dangerous material safety control act : "Article 4 of petroleum-rate 3", "Specify the quantity - 2,000 Liter"
- d) Wastes management act : "Specify waste(Category number : 01-01-07)"
- e) Other requirements in domestic and other countries
 - The item list of countries : (TSCA) Listed
 - (Others) Not applicable

16. Other information

- a) Information source and references
 - Hazardous Substances Data Bank(HSDB) : <http://www.toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen>
 - ECB(European Chemicals Bureau) : <http://ecb.jrc.ec.europa.eu/>
 - OECD SIDS Initial Assessment Report : <http://www.chem.unep.ch/irptc/sids/>
 - NITE : <http://www.safe.nite.go.jp/ghs/list.html>
 - United States National Library of Medicine : <http://chem.sis.nlm.nih.gov/chemidplus>
 - ECOTOX Database, EPA : <http://cfpub.epa.gov/ecotox>
 - KOSHA : <http://www.kosha.or.kr>
- b) Issuing date : June 21, 2011
- c) Revision number and date : October 30, 2017 (5th)
- d) Others : To ban the use for lawsuit, legal requirements and other purposes