

# Material Safety Data Sheet

Cascophen LT-5210Q

## 1. Product and company identification

<b>Product name</b>	Cascophen LT-5210Q
<b>MSDS Number</b>	000000104568
<b>Product Type</b>	Phenol Resorcinol Formaldehyde Resin
<b>Product use</b>	Laminating Resin Applications
<b>Manufacturer, Importer, Supplier</b>	Hexion Specialty Chemicals, Inc. 610 South Second St Springfield, OR 97477
<b>Print date</b>	19-JUN-2009
<b>Telephone</b>	<b>For Emergency Medical Assistance</b> Call Health & Safety Information Services, 1-866-303-6949  <b>For Emergency Transportation Information</b> CHEMTREC US Domestic (800) 424-9300 CHEMTREC International (703) 527-3887 CANUTEC CA Domestic (613) 996-6666

For additional health and safety or regulatory information, call 1 888-4-Hexion.

*Part of the CASCO<sup>®</sup> Brand of Adhesives and Resins from Hexion*

## 2. Hazards identification

<b>Form</b>	Liquid
<b>Odor</b>	Slight alcoholic
<b>OSHA/HCS status</b>	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Emergency overview</b>	<b>DANGER !</b> COMBUSTIBLE LIQUID AND VAPOR. MAY FORM EXPLOSIVE MIXTURES WITH AIR. CAUSES SEVERE RESPIRATORY TRACT BURNS. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES EYE IRRITATION. INHALATION CAN CAUSE CENTRAL NERVOUS SYSTEM (CNS) EFFECTS.
<b><u>Potential acute health effects</u></b>	
<b>Inhalation</b>	Can cause central nervous system (CNS) depression. Severely corrosive to the respiratory system. Can cause central nervous system (CNS) effects.
<b>Ingestion</b>	Can cause central nervous system (CNS) depression. May cause burns to mouth, throat and stomach.
<b>Skin</b>	May cause irritation on prolonged or repeated contact. May cause skin irritation.

**Eyes** Severely irritating to eyes. Risk of serious damage to eyes. Direct contact with the eyes can cause irreversible damage, including blindness.

**Potential chronic health effects**

**Chronic effects** Contains material that can cause target organ damage. Signs and symptoms of chronic phenol poisoning may include vomiting, difficulty in swallowing, diarrhea, lack of appetite, jaundice, fatigue, bleeding or easy bruising and sometimes pain and swelling in the upper right abdomen, changes in urine output or dark urine, pain upon urination or in the lower back, or general edema. Can also cause cardiac damage evidenced by shortness of breath and in severe cases cardiac arrest. Preexisting medical conditions of the heart, kidney, liver, lung, eyes and skin may be aggravated by exposure.

**Carcinogenicity** No known significant effects or critical hazards.

**Mutagenicity** No known significant effects or critical hazards.

**Teratogenicity** No known significant effects or critical hazards.

**Developmental effects** No known significant effects or critical hazards.

**Fertility effects** No known significant effects or critical hazards.

**Target organs** Contains material which causes damage to the following organs: blood, kidneys, liver, heart, spleen, skin, eyes, central nervous system (CNS), thyroid, Review Section 2 and 11 for any additional assessments.

**Over-exposure signs/symptoms**

**Inhalation** Adverse symptoms may include the following: nausea or vomiting, respiratory tract irritation, coughing, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness, cyanosis, motor difficulties, convulsion, confusion,

**Ingestion** Adverse symptoms may include the following: nausea or vomiting, dizziness/vertigo, drowsiness/fatigue, headache, unconsciousness,

**Skin** No specific data.

**Eyes** Adverse symptoms may include the following: pain or irritation, watering, redness,

**Medical conditions aggravated by over-exposure** Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See section 11 for more detailed information on health effects and symptoms.

**3. Composition/Information on ingredients**

<b><u>Ingredient name</u></b>	<b><u>CAS number</u></b>	<b><u>%</u></b>
Phenol	108-95-2	5.0 - 10.0
Ethanol	64-17-5	1.0 - 5.0
Resorcinol	108-46-3	1.0 - 5.0
Methanol	67-56-1	0.1 - 1.0
Ethyl Acetate	141-78-6	0.1 - 1.0

\*\* Any applicable Canadian trade secret numbers will be listed in Section 15.

## 4. First aid measures

<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician. Get medical attention immediately.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
<b>Inhalation</b>	Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
<b>Ingestion</b>	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
<b>Protection of first aid personnel</b>	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. If it is suspected that dust, vapor, mist or gas are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.
<b>Notes to physician</b>	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See section 11 for more detailed information on health effects and symptoms.

## 5. Fire-fighting measures

<b>Flammability of the product</b>	Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
<b><u>Extinguishing media</u></b>	
<b>Suitable</b>	Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
<b>Not suitable</b>	Do not use water jet.
<b>Special exposure hazards</b>	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
<b>Hazardous combustion products</b>	Decomposition products may include the following materials: carbon oxides,
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated

in positive pressure mode.

## 6. Accidental release measures

<b>Personal precautions</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8). Do not breathe dust, vapor, mist or gas.
<b>Environmental precautions</b>	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

## 7. Handling and storage

<b>Handling</b>	Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Follow US NFPA 30, "Flammable & Combustible Liquids Code", or other national, state and local codes on safe handling of flammable liquids. Train workers in the recognition and prevention of hazards associated with
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the storage, handling and transfer of flammable liquids in the plant. Empty containers retain product residue and can be hazardous. Do not reuse container. Do not breathe dust, vapor, mist or gas.

**Storage**

Store in an area designated for storage of flammable liquids (See NFPA 30 and OSHA 29 CFR 1910.106). Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

<b>8. Exposure controls/personal protection</b>
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<b><u>Ingredient name</u></b>	<b><u>Occupational exposure limits</u></b>
Phenol	<b>ACGIH TLV 8-hr TWA</b> 19 mg/m <sup>3</sup> 5 ppm  <b>OSHA PEL 8-hr TWA</b> 19 mg/m <sup>3</sup> 5 ppm
Ethanol	<b>ACGIH TLV 8-hr TWA</b> 1,880 mg/m <sup>3</sup> 1,000 ppm  <b>OSHA PEL 8-hr TWA</b> 1,900 mg/m <sup>3</sup> 1,000 ppm
Resorcinol	<b>ACGIH TLV 8-hr TWA</b> 45 mg/m <sup>3</sup> 10 ppm  <b>ACGIH TLV STEL (15 min)</b> 90 mg/m <sup>3</sup> 20 ppm
<b>Consult local authorities for acceptable exposure limits.</b>	
<b>Recommended monitoring procedures</b>	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
<b>Engineering measures</b>	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
<b>Hygiene measures</b>	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Respiratory</b>	Use a properly fitted, air-purifying or air-fed respirator complying with

an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

<b>Hands</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
<b>Eyes</b>	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
<b>Skin</b>	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
<b>Environmental exposure controls</b>	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

<b>Form</b>	Liquid
<b>Flash point</b>	65 °C(149 °F) Pinsky-Martens Closed Cup ASTM D 93
<b>Auto-ignition temperature</b>	Not available
<b>Flammable limits</b>	
<b>Lower:</b>	Not available
<b>Upper:</b>	Not available
<b>Color</b>	Clear, reddish-brown
<b>Odor</b>	Slight alcoholic
<b>pH</b>	9.8 - 10.2
<b>Boiling point</b>	102 °C(216 °F)
<b>Freezing Point</b>	Less than 0 °C(32 °F)
<b>Relative density</b>	Approx. 1.1751
<b>Vapor pressure</b>	Approx. 55 mm Hg @ 25 °C(77 °F)
<b>Odor threshold</b>	Not available
<b>Viscosity</b>	Dynamic- 1,450 - 1,650 cPs
<b>Solubility</b>	Slightly
<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Evaporation rate</b>	0.6 (n-Butyl acetate=1)
<b>Vapor density</b>	Not available
<b>Typical % solids</b>	56.00 % (m)

## 10. Stability and reactivity

<b>Stability</b>	Hazardous polymerization may occur under certain conditions of storage or use.
<b>Conditions to avoid</b>	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>Materials to avoid</b>	Reactive or incompatible with the following materials: oxidizing

materials, acids,

**Hazardous decomposition products**

Decomposition products may include the following materials: carbon monoxide, carbon dioxide, aldehydes (including formaldehyde), particulate matter, other organic compounds,

## 11. Toxicological information

**Acute toxicity**

**Product name**

Cascophen LT-5210Q

LD50 Oral	Rat	> 2,001 mg/kg Estimated.
LC50 Inhalation	Rat	> 2501 ppm/4 h Estimated.
LD50 Dermal	Rabbit	> 2,001 mg/kg Estimated.

**Acute toxicity**

**Ingredient name**

Phenol

LD50 Oral	Rat	317 mg/kg
LD50 Oral	Mouse	270 mg/kg
LD50 Oral	Mammal	500 mg/kg
LC50 Inhalation	Mouse	0.177 mg/l/4 h
LC50 Inhalation	Rat	0.316 mg/l/4 h
LD50 Dermal	Rat	669 mg/kg
LD50 Dermal	Rabbit	630 mg/kg

Ethanol

LD50 Oral	Mouse	3,450 mg/kg
LD50 Oral	Rabbit	6,300 mg/kg
LD50 Oral	Guinea pig	5,560 mg/kg
LC50 Inhalation	Rat	20000 ppm/10 h
LC50 Inhalation	Mouse	39 mg/l/4 h

Resorcinol

LD50 Oral	Rat	301 mg/kg
LD50 Oral	Mouse	200 mg/kg
LD50 Dermal	Rabbit	3,360 mg/kg

Methanol

LD50 Oral	Rat	5,600 mg/kg
LC50 Inhalation	Rat	64000 ppm/4 h
LD50 Dermal	Rabbit	15,800 mg/kg

Ethyl Acetate

LD50 Oral	Rat	5,620 mg/kg
LD50 Oral	Mouse	4,100 mg/kg
LD50 Oral	Rabbit	4,935 mg/kg
LD50 Oral	Guinea pig	5,500 mg/kg
LC50 Inhalation	Mouse	45 mg/l/2 h

**Conclusion/Summary**

**Resorcinol:** Signs of acute poisoning in rats include central nervous system stimulation, tremors and convulsions followed by depression and death, or complete recovery within 8-24 hours. Animal studies have further indicated that high acute doses have caused reversible damage to the thyroid as well as damage to the blood, spleen, liver, kidney and lungs. Since it is rapidly absorbed and rapidly eliminated from the body, there are no identified chronic or cumulative adverse effects.

**Other Toxicological Information**

**Carcinogenicity**

**Classification**  
**Ingredient name**

Phenol	ACGIH IARC NTP OSHA	Not classifiable as to its carcinogenicity to humans. Not classifiable as to its carcinogenicity to humans. Not listed Not regulated
Ethanol	ACGIH IARC NTP OSHA	Not classifiable as to its carcinogenicity to humans. Not classified Not listed Not regulated
Resorcinol	ACGIH IARC NTP OSHA	Not classifiable as to its carcinogenicity to humans. Not classifiable as to its carcinogenicity to humans. Not listed Not regulated
Methanol	ACGIH IARC NTP OSHA	Not classified Not classified Not listed Not regulated
Ethyl Acetate	ACGIH IARC NTP OSHA	Not classifiable as to its carcinogenicity to humans. Not classified Not listed Not regulated

<b>12. Ecological information</b>
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**Environmental effects**

No known significant effects or critical hazards.

**Aquatic ecotoxicity**

**Ingredient name**

Phenol	Fresh water	Acute LC50 24 mg/l/96 h	Fathead minnow
	Fresh water	Acute LC50 31 mg/l/96 h	Guppy
	Fresh water	Acute LC50 13.5 mg/l/96 h	Bluegill
Ethanol	Fresh water	Acute LC50 42 mg/l/96 h	Rainbow trout,donaldson trout
	Fresh water	Acute LC50 > 100 mg/l/96 h	Fathead minnow
Resorcinol	Fresh water	Acute LC50 > 100 mg/l/96 h	Rainbow trout,donaldson trout
	Fresh water	Acute LC50 40 mg/l/96 h	Fathead minnow
Methanol	Fresh water	Acute LC50 28,200 mg/l/96 h	Fathead minnow
	Fresh water	Acute LC50 20,100 mg/l/96 h	Rainbow trout,donaldson trout
	Fresh water	Acute EC50 13,000 mg/l/96 h	Rainbow trout,donaldson trout
	Fresh water	Acute LC50 15,400 mg/l/96 h	Bluegill
	Fresh water	Acute EC50 12,700 mg/l/96 h	Bluegill
Ethyl Acetate	Fresh water	Acute EC50 28,900 mg/l/96 h	Fathead minnow
	Fresh water	Acute LC50 425.3 mg/l/96 h	Rainbow trout,donaldson trout
	Fresh water	Acute LC50 230 mg/l/96 h	Fathead minnow

Other adverse effects  
No known significant effects or critical hazards.

### 13. Disposal considerations

**Waste disposal** The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### 14. Transportation

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

#### International transport regulations

Regulatory information	UN number	Proper shipping name	Classes/*PG	Reportable Quantity (RQ)
CFR	1993	COMBUSTIBLE LIQUID, N.O.S. (Ethanol, Phenol)	Class CBL III	Phenol

**TDG** Non-regulated

**IMO/MDG** Non-regulated

\*PG : Packing group

### 15. Regulatory information

#### US regulations

**HCS Classification** Combustible liquid, Corrosive material, Target organ effects

#### U.S. Federal regulations

**SARA 311/312 Classification** Immediate (acute) health hazard, Delayed (chronic) health hazard, reactive, Fire hazard

#### **SARA 313 - Supplier Notification**

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.

Phenol - 108-95-2 ( 8.10%),

**SARA 302 Extremely Hazardous Substances** The following components are listed:  
Phenol,

#### State regulations

**Massachusetts RTK Substances** The following components are listed: Phenol, Resorcinol, Ethanol,

**New Jersey RTK Hazardous Substances** The following components are listed:  
Phenol, Resorcinol, Ethanol,

**Pennsylvania RTK Hazardous Substances** The following components are listed:  
Phenol, Resorcinol, Ethanol,

**California Prop. 65:** WARNING: This product contains a chemical known to the State of California to cause cancer. Ethanol - 64-17-5,

## **Canada**

### **WHMIS (Canada)**

Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).

Class D-1A: Material causing immediate and serious toxic effects (Very toxic).

Class D-2A: Material causing other toxic effects (Very toxic).

Class D-2B: Material causing other toxic effects (Toxic).

Class E: Corrosive material

### **Canadian lists**

**Canadian NPRI:** The following components are listed: Phenol, Ethanol,

## **International regulations**

### **Chemical inventories**

Europe inventory Not determined.

Australia inventory (AICS) Not determined.

China inventory (IECSC) Not determined.

Japan inventory (ENCS) Not determined.

Japan inventory (ISHL) Not determined.

Korea inventory (KECI) Not determined.

New Zealand Inventory of Chemicals (NZIoC) Not determined.

Philippines inventory (PICCS) Not determined.

United States inventory (TSCA 8b) All components are listed or exempted.

Canada inventory All components are listed or exempted.

## **16. Other information**

### **Hazardous Material Information System III (U.S.A.)**

Health : 3

Flammability: 2

Physical hazards : 0

Chronic : \*

Caution: HMIS<sup>®</sup> ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS<sup>®</sup> ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS<sup>®</sup> ratings are to be used with a fully implemented HMIS<sup>®</sup> program. HMIS<sup>®</sup> is a registered mark of the National Paint & Coatings Association (NPCA). HMIS<sup>®</sup> materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

### **Prepared by**

Product Safety & Regulatory Compliance Group, (614)225-4778

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### **Notice to reader**

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