

Material Safety Data Sheet

FOR INDUSTRIAL USE ONLY

Durite® SL-859A

1. Product and company identification

Product name	Durite® SL-859A
MSDS Number	000000106144
Product Type	Phenolic Resin
Product use	Impregnating Resin Applications
Manufacturer, Importer, Supplier	Momentive Specialty Chemicals Inc. 180 East Broad Street Columbus OH 43215 4information@momentive.com
Print date	25-JAN-2011
Telephone	For Emergency Medical Assistance Call Health & Safety Information Services, 1-866-303-6949 For Emergency Transportation Information 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 1 888 443 9466.

The MSDS is not to be used as a specification sheet. For Specific technical information on the product listed above, a sales specification sheet should be obtained from your Momentive representative.

2. Hazards identification

Form	Liquid
Odor	Formaldehyde.
OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview	WARNING ! INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES EYE IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION. MAY CAUSE RESPIRATORY TRACT AND SKIN IRRITATION. INHALATION CAN CAUSE CENTRAL NERVOUS SYSTEM (CNS) EFFECTS.

Potential acute health effects

Inhalation

Can cause central nervous system (CNS) depression. Slightly irritating to the respiratory system. May cause sensitization by inhalation. Can cause central nervous system (CNS) effects.

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Ingestion	Can cause central nervous system (CNS) depression. Ingestion can cause severe, acute kidney damage which may be fatal.
Skin	Slightly irritating to the skin. May cause sensitization by skin contact.
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. Some reports suggest that formaldehyde may cause respiratory sensitization, such as asthma, and that preexisting respiratory and skin disorders may be aggravated by exposure. 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	Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	Contains material which may cause birth defects, based on animal data.
Developmental effects	Contains material which may cause developmental abnormalities, based on animal data.
Fertility effects	Contains material which may impair female fertility, based on animal data.
Target organs	Contains material which causes damage to the following organs: kidneys, liver, mucous membranes, heart, upper respiratory tract, skin, eyes, central nervous system (CNS), nose/sinuses 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, wheezing and breathing difficulties, unconsciousness, asthma, cyanosis, motor difficulties, convulsion, confusion,
Ingestion	Adverse symptoms may include the following: nausea or vomiting, dizziness/vertigo, drowsiness/fatigue, headache, motor difficulties, convulsions, mental confusion or disorientation, unconsciousness, cyanosis,
Skin	Adverse symptoms may include the following: irritation, redness,
Eyes	Adverse symptoms may include the following: pain or irritation, watering, redness,
Medical conditions aggravated by over-exposure	Pre-existing respiratory and skin disorders and disorders involving any other 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

<u>Ingredient name</u>	<u>CAS number</u>	<u>WT %</u>
Phenol	108-95-2	10.0 - 30.0
1,2-ethandiol	107-21-1	1.0 - 5.0
Formaldehyde	50-00-0	1.0 - 5.0
Disodium Tetraborate	1330-43-4	1.0 - 5.0

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

4. First aid measures

Eye contact	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. Get medical attention. Chemical burns must be treated promptly by a physician.
Skin contact	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. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Inhalation	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. In the event of any complaints or symptoms, avoid further exposure.
Ingestion	Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. 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.
Protection of first aid personnel	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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.
Notes to physician	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

Flammability of the product	In a fire or if heated, a pressure increase will occur and the container may burst.
<u>Extinguishing media</u>	
Suitable	Use water spray or mist, dry chemical, foam or CO ₂ .
Not suitable	Do not use water jet.
Special exposure hazards	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.
Hazardous combustion products	Decomposition products may include the following materials: carbon monoxide, carbon dioxide, aldehydes (including formaldehyde), phenol, aromatic compounds including benzo[a]pyrene
Special protective equipment for fire-fighters	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

Personal precautions	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. 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.
Environmental precautions	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).
Large spill	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). 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.
Small spill	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. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling

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. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure during pregnancy. 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. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Do not breathe dust, vapor, mist or gas.

Storage

Store in accordance with local regulations. 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. 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.

8. Exposure controls/personal protection

Ingredient name Phenol

Occupational exposure limits

ACGIH TLV 8-hr TWA
19 mg/m³ 5 ppm

OSHA PEL 8-hr TWA
19 mg/m³ 5 ppm

1,2-ethandiol

ACGIH TLV Ceiling
100 mg/m³
(aerosol)

Formaldehyde

ACGIH TLV Ceiling
0.37 mg/m³ 0.3 ppm

OSHA PEL 8-hr TWA
0.75 ppm

OSHA PEL STEL (15 mins)
2 ppm

Disodium Tetraborate

ACGIH TLV 8-hr TWA
2 mg/m³

ACGIH TLV STEL (15 min)
6 mg/m³

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures

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.

Engineering measures	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.
Hygiene measures	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.
Respiratory	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.
Eyes	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, gases or dusts.
Skin	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.
Environmental exposure controls	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

Form	Liquid
Flash point	Greater than 93.34 °C(200.01 °F) Setflash Closed Cup ASTM D 3828
Auto-ignition temperature	Not available
Flammable limits	
Lower:	Not available
Upper:	Not available
Color	Reddish-brown
Odor	Formaldehyde.
pH	7.9
Boiling point	110 °C(230 °F)
Relative density	1.195
Vapor pressure	16 mm Hg @ 25 °C(77 °F)
Odor threshold	Not available
Viscosity	Dynamic- 68 cPs Brookfield
Solubility	Greater than 1000 %(V)
Partition coefficient: n-octanol/water	Not available
Evaporation rate	Not applicable.
Vapor density	1

10. Stability and reactivity

Stability	The product is stable. Under normal conditions of storage and use,
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	hazardous polymerization will not occur.
Conditions to avoid	Avoid exposure - obtain special instructions before use.
Materials to avoid	Reactive or incompatible with the following materials: oxidizing materials, acids,
Other hazards	During processing, vapors of phenol, formaldehyde, alcohols, glycols or other solvents may be released.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Acute toxicity

Product name

Durite® SL-859A

LD50 Oral	Rat	> 2,001 mg/kg Estimated.
LC50 Inhalation	Rat	> 2501 ppm/1 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
LC50 Inhalation	Rat	0.316 mg/l
LD50 Dermal	Rat	669 mg/kg
LD50 Dermal	Rabbit	630 mg/kg

1,2-ethandiol

LD50 Oral	Mouse	5,500 mg/kg
LD50 Oral	Dog	5,500 mg/kg
LD50 Oral	Cat	1,650 mg/kg
LD50 Oral	Rat	4,700 mg/kg
LD50 Oral	Guinea pig	6,600 mg/kg
LC50 Inhalation	Rat	> 3.95 mg/l/7 h
LD50 Dermal	Rabbit	> 22,270 mg/kg

Formaldehyde

LD50 Oral	Rat	800 mg/kg
LC50 Inhalation	Rat	0.578 mg/l 250 ppm/2 h
LD50 Dermal	Rabbit	270 mg/kg

Disodium Tetraborate

LD50 Oral	Rat	1,200 mg/kg
LD50 Oral	Mouse	1,060 mg/kg

Other Toxicological Information

Carcinogenicity

Classification

Ingredient name

Phenol

ACGIH	Not classifiable as to its carcinogenicity to humans.
IARC	IARC Group 3, not classifiable as to carcinogenicity to humans
NTP	Not listed
OSHA	Not regulated
EU	Not classified

1,2-ethandiol

Formaldehyde	ACGIH	Not classifiable as to its carcinogenicity to humans.
	IARC	Not classified
	NTP	Not listed
	OSHA	Not regulated
	EU	Not classified
Disodium Tetraborate	ACGIH	Suspected human carcinogen.
	IARC	IARC Group 1, carcinogenic to humans
	NTP	Possible
	OSHA	OSHA cancer potential
	EU	Limited evidence of a carcinogenic effect.
	ACGIH	Not classifiable as to its carcinogenicity to humans.
	IARC	Not classified
	NTP	Not listed
	OSHA	Not regulated
	EU	Not classified

12. Ecological information

Environmental effects

No known significant effects or critical hazards.

Aquatic ecotoxicity

Ingredient name

Phenol

1,2-ethandiol	Fresh water	Acute LC50 24 mg/l/96 h	Fathead minnow
	Fresh water	Acute LC50 8,050 mg/l/96 h	Fathead minnow
	Fresh water	Acute LC50 > 18,500 mg/l/96 h	Rainbow trout, donaldson trout
Formaldehyde	Fresh water	Acute LC50 1.41 mg/l/4 d	Rainbow trout, donaldson trout
	Fresh water	Acute LC50 1.51 mg/l/4 d	Bluegill

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. Transport information

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/NA number	Proper shipping name	Classes/PG	Reportable Quantity (RQ)
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CFR	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Formaldehyde, Phenol)	Class 9 III	Formaldehyde, Phenol
TDG		Non-regulated		
IMO/IMDG	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. contains (Formaldehyde, Phenol)	Class 9 III	Formaldehyde, Phenol

*PG : Packing group

15. Regulatory information

US regulations

HCS Classification Irritating material, Sensitizing material, Carcinogen, Target organ effects

U.S. Federal regulations

SARA 311/312 Classification Immediate (acute) health hazard, Delayed (chronic) health 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 (19.98%), 1,2-ethandiol - 107-21-1 (4.05%), Formaldehyde - 50-00-0 (2.51%),

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

State regulations

Massachusetts RTK Substances The following components are listed: Phenol, 1,2-ethandiol, Formaldehyde, Disodium Tetraborate,

New Jersey RTK Hazardous Substances The following components are listed: Phenol, 1,2-ethandiol, Formaldehyde,

Pennsylvania RTK Hazardous Substances The following components are listed: Phenol, 1,2-ethandiol, Formaldehyde, Disodium Tetraborate,

California Prop. 65: WARNING: This product contains a chemical known to the State of California to cause cancer. Formaldehyde - 50-00-0,

Canada

WHMIS (Canada)

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

Canadian lists

Canadian NPRI: The following components are listed: Phenol, 1,2-ethandiol, Formaldehyde,

International regulations

Chemical inventories

Europe inventory All components are listed or exempted.
Australia inventory (AICS) All components are listed or exempted.
China inventory (IECSC) All components are listed or exempted.
Korea inventory (KECI) All components are listed or exempted.
Philippines inventory (PICCS) Not determined.
Japan inventory (ENCS) 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	Health : 2
Information System III	Flammability: 2
(U.S.A.)	Physical hazards : 0
	Chronic : *

Caution: HMIS® 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® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® 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
Date of issue	21-NOV-2010
Date of printing	25-JAN-2011
Version	3.4

Notice to reader

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