

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 03.02.2018

Page 1 of 10

Revision date: 03.15.2018

LND Hardener

SECTION 1: Identification

Product identifier

Product name: LND Hardener

Product code: LND-1

Recommended use of the product and restriction on use

Relevant identified uses: Not determined or not applicable.

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

North America

Gougeon Brothers, Inc.
100 Patterson Ave.
Bay City, MI 48706, U.S.A.
310-882-2120
safety@entropyresin.com

Supplier:

Canada

Composites One
26596 Gloucester Way Unit #105
Langley, BC V4W 4A8

Emergency telephone number:

North America

CHEMTREC

800-424-9300 US

703-527-3887 International

SECTION 2: Hazard identification

GHS classification:

Skin irritation, category 2

Serious eye damage, category 1

Respiratory sensitization, category 1

Skin sensitization, category 1

Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements:

H315 Causes skin irritation.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

Precautionary statements:

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 03.02.2018

Page 2 of 10

Revision date: 03.15.2018

LND Hardener

P264 Wash eyes and skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P284 In case of inadequate ventilation wear respiratory protection.
P272 Contaminated work clothing should not be allowed out of the workplace.
P321 Specific treatment (see supplemental first aid instructions on this label).
P302+P352 IF ON SKIN: Wash with plenty of water/soap.
P362+P364 Take off contaminated clothing and wash it before reuse.
P310 Immediately call a POISON CENTER/doctor/physician.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.
P363 Wash contaminated clothing before reuse
P333+P313 If skin irritation or a rash occurs: Get medical advice/attention
P501 Dispose of contents and container as instructed in Section 13.

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 56-37-1	Benzyltriethylammonium chloride	<10
CAS number: 19438-60-9	Methylhexahydrophthalic anhydride	10-25
CAS number: 85-44-9	Phthalic anhydride	<5
CAS number: 34090-76-1	Methyltetrahydrophthalic anhydride	35-80
CAS number: 85-43-8	Tetrahydrophthalic anhydride	10-25

Additional Information: None

SECTION 4: First-aid measures

Description of first-aid measures

General notes:

Not determined or not available.

After inhalation:

Move exposed individual to fresh air
Loosen clothing as necessary and position individual in a comfortable position
Maintain an unobstructed airway
Immediately call a POISON CONTROL CENTER or seek medical attention

After skin contact:

Rinse affected area with soap and water

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 03.02.2018

Page 3 of 10

Revision date: 03.15.2018

LND Hardener

If symptoms develop or persist, seek medical attention

Wash affected area with soap and water

Seek medical attention if symptoms develop or persist

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes

Remove contact lens(es) if able to do so during rinsing

Immediately call a POISON CONTROL CENTER or seek medical attention

After ingestion:

Rinse mouth and then drink plenty of water

Do not induce vomiting

Get medical advice/attention if you feel unwell

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Not determined or not available.

Delayed symptoms and effects:

Not determined or not available.

Immediate medical attention and special treatment

Specific treatment:

Not determined or not available.

Notes for the doctor:

Not determined or not available.

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

Unsuitable extinguishing media:

Do not use water as an extinguisher

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing

Refer to Section 8

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

Special precautions:

Heating causes a rise in pressure, risk of bursting and combustion

Shut off sources of ignition

Carbon monoxide and carbon dioxide may form upon combustion

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation

Ensure air handling systems are operational

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 03.02.2018

Page 4 of 10

Revision date: 03.15.2018

LND Hardener

Wear protective eye wear, gloves and clothing

Environmental precautions:

Should not be released into the environment
Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:

Absorb with non-combustible liquid-binding material (sand, diatomaceous earth (clay), acid binders, universal binders)
Dispose of contents / container in accordance with local regulations

Reference to other sections:

Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:

Do not eat, drink, smoke or use personal products when handling chemical substances.
Avoid breathing mist or vapor.
Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.
Store away from foodstuffs.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Canada	Phthalic anhydride	85-44-9	Alberta OELs - 8-Hour TWA Exposure Limit: 1 ppm (6.1 mg/m ³)
	Phthalic anhydride	85-44-9	British Columbia OELs - 8-Hour TWA Exposure Value: 1 ppm
	Phthalic anhydride	85-44-9	Manitoba OELs - 8-hour Exposure Limit (TLV-TWA): 0.002 mg/m ³ (inhalable fraction and vapor)
	Phthalic anhydride	85-44-9	Manitoba OELs - 15-minute STEL: 0.005 mg/m ³ (inhalable fraction and vapor)
	Phthalic anhydride	85-44-9	Ontario OELs - 8-Hour TWA Exposure Limit: 1 ppm
	Phthalic anhydride	85-44-9	8-hour TWA Exposure Value: 1 ppm (6.1 mg/m ³)
	Phthalic anhydride	85-44-9	Saskatchewan OELs - 8 Hour Average Contamination Limit: 1 ppm
	Phthalic anhydride	85-44-9	Saskatchewan OELs - 15 minute average contamination limit: 2 ppm

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 03.02.2018

Page 5 of 10

Revision date: 03.15.2018

LND Hardener

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Not determined or not applicable.

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance.

Select glove material based on rates of diffusion and degradation.

Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

General hygienic measures:

Wash hands before breaks and at the end of work.

Avoid contact with skin, eyes and clothing.

Perform routine housekeeping.

Wash contaminated clothing before reusing.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance (physical state, color):	Amber Liquid
Odor:	Characterisitic
Odor threshold:	Not determined or not available.
pH-value:	Not determined or not available.
Melting/Freezing point:	Not determined or not available.
Boiling point/range:	>307 °C (>585 °F)
Flash point:	>135 °C (>275 °F)
Evaporation rate:	Zero
Flammability (solid, gaseous):	Not determined or not available.
Explosion limit upper:	Not determined or not available.
Explosion limit lower:	Not determined or not available.
Vapor pressure:	0 mmHg at 15 °C
Vapor density:	5.7 (air = 1)
Density:	Not determined or not available.
Relative density:	1.21 (water = 1) at 25 °C
Solubilities:	Negligible.
Partition coefficient (n-octanol/water):	Not determined or not available.

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 03.02.2018

Page 6 of 10

Revision date: 03.15.2018

LND Hardener

Auto/Self-ignition temperature:	Not determined or not available.
Decomposition temperature:	Not determined or not available.
Dynamic viscosity:	Not determined or not available.
Kinematic viscosity:	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

SECTION 10: Stability and reactivity

Reactivity:

Does not react under normal conditions of use and storage.

Chemical stability:

Stable under normal conditions of use and storage.

Possibility of hazardous reactions:

None under normal conditions of use and storage.

Conditions to avoid:

None known.

Incompatible materials:

Alcohols, alkalis, water.

Hazardous decomposition products:

Carbon monoxide, carbon dioxide.

SECTION 11: Toxicological information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Route	Result
Phthalic anhydride	oral	LD50 - Mouse - 1,500 mg/kg

Skin corrosion/irritation

Assessment: Causes skin irritation

Product data:

No data available.

Substance data:

Name	Result
Phthalic anhydride	Causes skin irritation.

Serious eye damage/irritation

Assessment: Causes serious eye damage

Product data:

No data available.

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 03.02.2018

Page 7 of 10

Revision date: 03.15.2018

LND Hardener

Substance data:

Name	Result
Methyltetrahydrophthalic anhydride	Causes serious eye damage.
Tetrahydrophthalic anhydride	Causes serious eye damage.
Methylhexahydrophthalic anhydride	Causes serious eye damage.
Phthalic anhydride	Causes serious eye damage.

Respiratory or skin sensitization

Assessment: May cause allergy or asthma symptoms or breathing difficulties if inhaled May cause an allergic skin reaction

Product data:

No data available.

Substance data:

Name	Result
Methyltetrahydrophthalic anhydride	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	May cause an allergic skin reaction.
Tetrahydrophthalic anhydride	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	May cause an allergic skin reaction.
Methylhexahydrophthalic anhydride	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	May cause an allergic skin reaction.
Phthalic anhydride	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	May cause an allergic skin reaction.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 03.02.2018

Page 8 of 10

Revision date: 03.15.2018

LND Hardener

Substance data:

Name	Result
Phthalic anhydride	Specific Target Organ Toxicity, Single Exposure - May cause respiratory irritation.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Information on likely routes of exposure:

No data available.

Symptoms related to the physical, chemical and toxicological characteristics:

No data available.

Other information:

No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Chronic (long-term) toxicity

Product data: No data available.

Substance data:

Name	Result
Tetrahydrophthalic anhydride	EC50 - Pseudokirchneriella subcapitata - 65.3 mg/L - 72 h

Persistence and degradability

Product data: No data available.

Substance data: No data available.

Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

Mobility in soil

Product data: No data available.

Substance data: No data available.

Other adverse effects: No data available.

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 03.02.2018

Page 9 of 10

Revision date: 03.15.2018

LND Hardener

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

SECTION 14: Transport information

Canadian Transportation of Dangerous Goods (TDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

SECTION 15: Regulatory information

Canada regulations

Domestic substances list (DSL):

34090-76-1	Methyltetrahydrophthalic anhydride	Listed
85-43-8	Tetrahydrophthalic anhydride	Listed
19438-60-9	Methylhexahydrophthalic anhydride	Listed
85-44-9	Phthalic anhydride	Listed
56-37-1	Benzyltriethylammonium chloride	Listed

Non-domestic substances list (NDSL): Not determined.

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 03.02.2018

Page 10 of 10

Revision date: 03.15.2018

LND Hardener

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 1-0-0

HMIS: 1-0-0

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End of Safety Data Sheet