Safety Data Sheet
prepared to UN GHS Revision 3

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier 1039A1NL

Product Name: THERMALINE 450 NOVOLAC PART A

Revision Date: 05/30/2015

Supercedes Date: 29/05/2015

1.2 Relevant identified uses of the substance or mixture and uses advised against Component of multicomponent industrial coatings - Industrial use.

1.3 Details of the supplier of the safety data sheet

Manufacturer:

Carboline Company
2150 Schuetz Road
St. Louis, MO USA 63146

Regulatory / Technical Information:
Contact Carboline Technical Services at
1-800-848-4645

Datasheet Produced by: Schlereth, Ken - ehs@stoncor.com

1.4 Emergency telephone number:

CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)
HEALTH - Pittsburgh Poison Control 1-412-681-6669

2. Hazard Identification

2.1 Classification of the substance or mixture

Hazardous to the aquatic environment, Chronic, category 2
Carcinogenicity, category 2
Eye Irritation, category 2
Flammable Liquid, category 2
Skin Irritation, category 2
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product

Signal Word

Danger

Named Chemicals on Label

CARBON BLACK, EPOXY PHENOL NOVOLAC RESIN, GLASS OXIDE

GHS HAZARD STATEMENTS

Flammable Liquid, category 2	H225	Highly flammable liquid and vapour.
Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Hazardous to the aquatic environment, Chronic, category 2	H411	Toxic to aquatic life with long lasting effects.

GHS PRECAUTION PHRASES

P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P235	Keep cool.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P284	Wear respiratory protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+313	IF exposed or concerned: Get medical advice/attention
P332+313	If skin irritation occurs: Get medical advice/attention.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P391	Collect spillage.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

Not applicable

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

CAS-No.	Chemical Name	%
28064-14-4	EPOXY PHENOL NOVOLAC RESIN	25-50
65997-17-3	GLASS OXIDE	25-50
78-93-3	METHYL ETHYL KETONE	10-25
108-38-3	META-XYLENE	2.5-10
13463-67-7	TITANIUM DIOXIDE	2.5-10
106-42-3	PARA-XYLENE	1.0-2.5
100-41-4	ETHYL BENZENE	1.0-2.5
1333-86-4	CARBON BLACK	1.0-2.5
95-47-6	ORTHO-XYLENE	1.0-2.5

CAS-No.	GHS Symbols	GHS Hazard Statements	M-Factors
28064-14-4	GHS07-GHS09	H315-317-319-411	0
65997-17-3	GHS08	H351	0
78-93-3	GHS02-GHS07	H225-319-336	0
108-38-3	GHS02-GHS07	H226-312-315-332	0
13463-67-7			0
106-42-3	GHS02-GHS07-GHS08	H226-312-315-332-335-371	0
100-41-4	GHS02-GHS07	H225-332	0
1333-86-4	GHS08	H351	0
95-47-6	GHS02-GHS07	H226-312-315-332	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.
AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.
AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Provide adequate ventilation. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Electrical installations / working materials must comply with the technological safety standards. Wear shoes with conductive soles.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Cool containers / tanks with water spray. Flammable.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8. Ensure adequate ventilation. Ensure adequate ventilation. Evacuate personnel to safe areas. Evacuate personnel to safe areas. Remove all sources of ignition. Remove all sources of ignition. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Wear personal protective equipment.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Do not breathe vapours or spray mist. Ensure all equipment is electrically grounded before beginning transfer operations. Do not use sparking tools. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection.
PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, flames and sparks.
STORAGE CONDITIONS: Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

Name	%	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	OEL Note
EPOXY PHENOL NOVOLAC RESIN	25-50	N/E	N/E	N/E	N/E	
GLASS OXIDE	25-50	1 FIBERS/CM3	N/E	N/E	N/E	
METHYL ETHYL KETONE	10-25	200 PPM	300 PPM	590 MGM3	N/E	
META-XYLENE	2.5-10	100 PPM	150 PPM	435 MG/M3	N/E	
TITANIUM DIOXIDE	2.5-10	10 MGM3	N/E	10 MGM3	N/E	

PARA-XYLENE	1.0-2.5	100 PPM	150 PPM	435 MGM3	N/E
ETHYL BENZENE	1.0-2.5	20 PPM	N/E	435 MGM3	N/E
CARBON BLACK	1.0-2.5	3.0 MG/M3	N/E	3.5 MG/M3	N/E
ORTHO-XYLENE	1.0-2.5	100 PPM	150 PPM	435 MG/M3	N/E

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious glovesRequest information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Viscous Liquid, Various Colors
Physical State	Liquid
Odor	Epoxy
Odor threshold	
pH	N/D
Melting point / freezing point (°C)	N/D
Boiling point/range (°C)	149 F (65 C) - 400 F (204 C)
Flash Point, (°C)	12
Evaporation rate	
Flammability (solid, gas)	
Upper/lower flammability or explosive limits	Not determined
Vapour Pressure, mmHg	N/D
Vapour density	
Relative density	
Solubility in / Miscibility with water	N/D
Partition coefficient: n-octanol/water	
Auto-ignition temperature (°C)	
Decomposition temperature (°C)	
Viscosity	Unknown
Explosive properties	

Oxidising properties

9.2 Other information

VOC Content g/l:	240
Specific Gravity (g/cm3)	app. 1.34

10. Stability and Reactivity

10.1 Reactivity
No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4 Conditions to avoid
Heat, flames and sparks.

10.5 Incompatible materials
Strong oxidizing agents.

10.6 Hazardous decomposition products
Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50:	N/D
Inhalation LC50:	N/D
Irritation:	Unknown
Corrosivity:	Unknown
Sensitization:	Unknown
Repeated dose toxicity:	Unknown
Carcinogenicity:	Unknown
Mutagenicity:	Unknown
Toxicity for reproduction:	Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
28064-14-4	EPOXY PHENOL NOVOLAC RESIN	>5000 mg/kg. oral, rat	>2000 mg/kg, rabbit	Not Available
65997-17-3	GLASS OXIDE	Not Available		Not Available
78-93-3	METHYL ETHYL KETONE	2194 mg/kg rat, oral		34.5 mg/L/ 4 hour rat, inhalation
108-38-3	META-XYLENE	Not Available		Not Available
13463-67-7	TITANIUM DIOXIDE	25000 mg/m3, oral (rat)		Not Available
106-42-3	PARA-XYLENE	Not Available		Not Available
100-41-4	ETHYL BENZENE	3500 mg/kg rat, oral	>5000 mg/l, dermal rabbit	17.2 mg/L Inh, Rat, 4Hr
1333-86-4	CARBON BLACK	8000 mg/kg oral, rat		Not Available
95-47-6	ORTHO-XYLENE	Not Available		Not Available

Additional Information:

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): Unknown

IC50 72hr (Algae): Unknown

LC50 96hr (fish): Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
28064-14-4	EPOXY PHENOL NOVOLAC RESIN	No information	No information	No information
65997-17-3	GLASS OXIDE	No information	No information	No information
78-93-3	METHYL ETHYL KETONE	308 mg/l (Daphnia magna)	No information	2993 mg/l (Pimephales promelas)
108-38-3	META-XYLENE	No information	No information	No information
13463-67-7	TITANIUM DIOXIDE	No information	No information	No information
106-42-3	PARA-XYLENE	No information	No information	No information
100-41-4	ETHYL BENZENE	No information	No information	No information
1333-86-4	CARBON BLACK	No information	No information	No information
95-47-6	ORTHO-XYLENE	No information	No information	No information

13. Disposal Considerations

13.1 **WASTE TREATMENT METHODS:** Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1	**UN number**	UN 1263
14.2	**UN proper shipping name**	Paint
	Technical name	N/A
14.3	**Transport hazard class(es)**	3
	Subsidiary shipping hazard	N/A
14.4	**Packing group**	II
14.5	**Environmental hazards**	Marine Pollutant: Yes
14.6	**Special precautions for user**	Unknown
	EmS-No.:	F-E, S-E
14.7	**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**	Unknown

15. Regulatory Information

15.1 **Safety, health and environmental regulations/legislation for the substance or mixture:**

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
META-XYLENE	108-38-3
PARA-XYLENE	106-42-3
ETHYL BENZENE	100-41-4
ORTHO-XYLENE	95-47-6

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

Chemical Name	CAS-No.

No TSCA 12(b) components exist in this product.

U.S. Clean Air Act:

EPA Coating Category:
EPA VOC Content Limit (g/l):
Product VOC Content (g/l)
Thinning Recommendations:
Application Recommendations:

Harmful if swallowed.

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS-No.
IRON OXIDE	1332-37-2

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS-No.
IRON OXIDE	1332-37-2

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

Chemical Name	CAS-No.
TITANIUM DIOXIDE	13463-67-7
ETHYL BENZENE	100-41-4
CARBON BLACK	1333-86-4
MICROCRYSTALLINE SILICA	14808-60-7
BENZENE	71-43-2

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

Chemical Name	CAS-No.
TOLUENE	108-88-3
METHYL ALCOHOL	67-56-1
BENZENE	71-43-2

International Regulations: As follows -

*** Canadian DSL:**

No Information

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.

H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H371	May cause damage to organs.
H411	Toxic to aquatic life with long lasting effects.

Reasons for revision

No Information

No Information