Safety Data Sheet

Prepared in Accordance with HCS 29 C.F.R. 1910.1200

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

1.1 Product Identifier R440B1NL

Product Name: SP-9888 BRUSH HARDENER

Revision Date: 05/23/2023

Supercedes Date: New SDS

1.2 Relevant identified uses of the substance or mixture and uses advised against

Component of multicomponent industrial coatings - Industrial use. Advised against: others than recommended

1.3 Details of the supplier of the safety data sheet

Manufacturer :

Specialty Polymer Coatings Division
Carboline Global Inc.
2150 Schuetz Road
St. Louis, Mo. 63146

Regulatory / Technical Information:
604-514-9711

Datasheet Produced by: Beebe, Hayli - regulatory@carboline.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

Acute Toxicity, Dermal, category 4
Acute Toxicity, Inhalation, category 4
Acute Toxicity, Oral, category 4
Hazardous to the aquatic environment, Chronic, category 2
Carcinogenicity, category 2
Skin Corrosion, category 1
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product



Signal Word

Danger

Named Chemicals on Label

FURFURYL ALCOHOL, BENZYL ALCOHOL, PHENOL, 1,2-CYCLOHEXANEDIAMINE, BENZENE-1, 3-DIMETHANAMINE, 4,4'-METHYLENEBIS(CYCLOHEXYLAMINE), FORMALDEHYDE POLYMER WITH PHENOL, POLYETHYLENE POLYAMINES, 1,3-BENZENEDIAMINEMETHANEAMINE, ALIPHATIC AMINE, ALCOHOL, ALICYCLIC AMINE

HAZARD STATEMENTS

Acute Toxicity, Oral, category 4	H302	Harmful if swallowed.
Acute Toxicity, Dermal, category 4	H312	Harmful in contact with skin.
Skin Corrosion, category 1	H314-1	Causes severe skin burns and eye damage.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
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.

PRECAUTION PHRASES

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P284	Wear respiratory protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P352	Wash with plenty of soap and water.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.

2.3 Other hazards

No Information

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

Name According to EEC	EINEC No.	CAS-No.	%	Classifications	
BENZYL ALCOHOL	202-859-9	100-51-6	10 - <25	H302-312-319-332	Acute Tox. 4 Dermal, Acute Tox. 4 Inhalation, Acute Tox. 4 Oral, Eye Irrit. 2
1,3-BENZENEDIAMINEMETHANEAMINE	603-922-7	135470-04-1	10 - <25	H302-312	Acute Tox. 4 Dermal, Acute Tox. 4 Oral
FORMALDEHYDE POLYMER WITH PHENOL	500-037-7	25265-17-2	10 - <25	H302-312-314-317-413	Acute Tox. 4 Dermal, Acute Tox. 4 Oral, Aquatic Chronic 4, Skin Corr. 1, Skin Sens. 1
CYCLOALIPHATIC AMINE		TRADE SECRET	2.5 - <10		
ALCOHOL		TRADE SECRET	2.5 - <10	H302-319	
BENZENE-1, 3-DIMETHANAMINE	216-032-5	1477-55-0	2.5 - <10	H302-314-317-332-412	Acute Tox. 4 Inhalation, Acute Tox. 4 Oral, Aquatic Chronic 3, Skin Corr. 1, Skin Sens. 1
4,4'-METHYLENEBIS (CYCLOHEXYLAMINE)	217-168-8	1761-71-3	2.5 - <10	H314-317-373-411	Aquatic Chronic 2, Skin Corr. 1, Skin Sens. 1, STOT RE 2
FURFURYL ALCOHOL	202-626-1	98-00-0	2.5 - <10	H302-312-319-331-335-351-373	Acute Tox. 3 Inhalation, Acute Tox. 4 Dermal, Acute Tox. 4 Oral, Carc. 2, Eye Irrit. 2, STOT RE 2, STOT SE 3 RTI
ALICYCLIC AMINE		TRADE SECRET	2.5 - <10	H314-317	
1,2-CYCLOHEXANEDIAMINE	211-776-7	694-83-7	1.0 - <2.5	H302-312-314-317	Acute Tox. 4 Dermal, Acute Tox. 4 Oral, Skin Corr. 1, Skin Sens. 1
POLYETHYLENE POLYAMINES	268-626-9	68131-73-7	1.0 - <2.5	H302-312-314-317-400-410	Acute Tox. 4 Dermal, Acute Tox. 4 Oral, Aquatic Acute 1, Aquatic Chronic 1, Skin Corr. 1, Skin Sens. 1
ALIPHATIC AMINE		TRADE SECRET	1.0 - <2.5	H302-314-317-332-412	
PHENOL	203-632-7	108-95-2	0.1 - <1.0	H301-311-314-331-341-373	Acute Tox. 3 Dermal, Acute Tox. 3 Inhalation, Acute Tox. 3 Oral, Muta. 2, Skin Corr. 1, STOT RE 2
4-TERT-BUTYLPHENOL	202-679-0	98-54-4	0.1 - <1.0	H315-318-361F-410	Aquatic Chronic 1, Eye Dam. 1, Repr. 2, Skin Irrit. 2

CAS-No.	M-Factors
100-51-6	0
135470-04-1	0
25265-17-2	0
TRADE SECRET	0

TRADE SECRET	0
1477-55-0	0
1761-71-3	0
98-00-0	0
TRADE SECRET	0
694-83-7	0
68131-73-7	0
TRADE SECRET	0
108-95-2	0
98-54-4	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

May cause sensitization by skin contact. Irritating to eyes and skin. May be harmful if swallowed.

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.
When symptoms persist or in all cases of doubt seek medical advice.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Vapors may spread long distances and ignite.

FOR SAFETY REASONS NOT TO BE USED: Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

SPECIAL FIREFIGHTING PROCEDURES: In the event of fire, wear self-contained breathing apparatus. Evacuate personnel to safe areas. Use NIOSH approved respiratory protection. Use water spray to cool unopened containers.

SPECIAL FIREFIGHTING PROTECTION EQUIPMENT: No Information

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Evacuate personnel to safe areas. 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. For personal protection see section 8.

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

Prevent further leakage or spillage if safe to do so. 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

No 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. Ensure all equipment is electrically grounded before beginning transfer operations. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection. Avoid breathing vapors, mist or gas. Wash thoroughly after handling.
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)

The mixing and application to be in accordance with the technical data sheets.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits
(US)

Name	CAS-No.	ACGIH TWA	ACGIH STEL	ACGIH Ceiling
BENZYL ALCOHOL	100-51-6	N/E	N/E	N/E
1,3-BENZENEDIAMINEMETHANEAMINE	135470-04-1	N/E	N/E	N/E
FORMALDEHYDE POLYMER WITH PHENOL	25265-17-2	N/E	N/E	N/E
CYCLOALIPHATIC AMINE	TRADE SECRET	N/E	N/E	N/E
ALCOHOL	TRADE SECRET	N/E	N/E	N/E
BENZENE-1, 3-DIMETHANAMINE	1477-55-0	N/E	N/E	0.1 MGM3
4,4'-METHYLENEBIS(CYCLOHEXYLAMINE)	1761-71-3	N/E	N/E	N/E
FURFURYL ALCOHOL	98-00-0	0.2 PPM	15 PPM	N/E
ALICYCLIC AMINE	TRADE SECRET	N/E	N/E	N/E
1,2-CYCLOHEXANEDIAMINE	694-83-7	N/E	N/E	N/E
POLYETHYLENE POLYAMINES	68131-73-7	N/E	N/E	N/E
ALIPHATIC AMINE	TRADE SECRET	N/E	N/E	0.1 mg/m3
PHENOL	108-95-2	5 PPM	N/E	N/E
4-TERT-BUTYLPHENOL	98-54-4	N/E	N/E	N/E

Name	CAS-No.	OSHA PEL	OSHA STEL
BENZYL ALCOHOL	100-51-6	N/E	N/E

1,3-BENZENEDIAMINEMETHANEAMINE	135470-04-1	N/E	N/E
FORMALDEHYDE POLYMER WITH PHENOL	25265-17-2	N/E	N/E
CYCLOALIPHATIC AMINE	TRADE SECRET	N/E	
ALCOHOL	TRADE SECRET	N/E	N/E
BENZENE-1, 3-DIMETHANAMINE	1477-55-0	N/E	N/E
4,4'-METHYLENEBIS(CYCLOHEXYLAMINE)	1761-71-3	N/E	N/E
FURFURYL ALCOHOL	98-00-0	40 MGM3, 10 PPM	60 MGM3, 15 PPM
ALICYCLIC AMINE	TRADE SECRET	N/E	N/E
1,2-CYCLOHEXANEDIAMINE	694-83-7	N/E	N/E
POLYETHYLENE POLYAMINES	68131-73-7	N/E	N/E
ALIPHATIC AMINE	TRADE SECRET	N/E	N/E
PHENOL	108-95-2	19 MGM3, 5 PPM	N/E
4-TERT-BUTYLPHENOL	98-54-4	N/E	N/E

FURTHER ADVICE: Refer to the regulatory exposure limits for the workforce enforced in each country. Some components may not have been classified under the EU CLP Regulation.

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 gloves. Request information on glove permeation properties from the glove supplier. Lightweight protective clothing

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

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Use only in an area equipped with explosion proof exhaust ventilation. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Amber Liquid
Physical State	Liquid
Odor	Ammonia
Odor threshold	Not Determined

pH	Not Determined
Melting point / freezing point (°C)	Not Determined
Boiling point/range (°C)	181 F (83 C) - 531 F (277 C)
Flash Point (°C)	201F (94C)
Evaporation rate	Slower Than Ether
Flammability (solid, gas)	Not Determined
Upper/lower flammability or explosive limits	1.3 - 16.3
Vapour Pressure, mmHg	Not Determined
Vapour density	Heavier than Air
Relative density	Not Determined
Solubility in / Miscibility with water	Slightly Soluble In Water At 68F (20C)
Partition coefficient: n-octanol/water	Not Determined
Auto-ignition temperature (°C)	Not Determined
Decomposition temperature (°C)	Not Determined
Viscosity	Not Determined
Explosive properties	Not Determined
Oxidising properties	Not Determined

9.2 Other information

VOC Content g/l:	5
Specific Gravity (g/cm3)	1.06

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: No information on the product itself as the product is not tested

Inhalation LC50: No information on the product itself as the product is not tested

Irritation: Unknown

Corrosivity: Skin Corrosion, category 1

Sensitization: Skin Sensitizer, category 1

Repeated dose toxicity: Unknown

Carcinogenicity: Carcinogenicity, category 2

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

STOT-single exposure: Unknown

STOT-repeated exposure: Unknown

Aspiration hazard: 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	Gas LC50	Dust/Mist LC50
100-51-6	BENZYL ALCOHOL	1230 mg/kg rat, oral	2000 mg/kg, dermal, rabbit	4176 mg/l / 4h, Inh, Rat	No Information	No Information
TRADE SECRET	CYCLOALIPHATIC AMINE	>2000 MG/KG, ORAL, RAT		NOT AVAILABLE	0.000	0.000
TRADE SECRET	ALCOHOL	Not Available	Not Available	Not Available	Not Available	Not Available
1477-55-0	BENZENE-1, 3-DIMETHANAMINE	930 mg/kg, oral, rat	No Information	No Information	No Information	No Information
1761-71-3	4,4'-METHYLENEBIS (CYCLOHEXYLAMINE)	>2000 mg/kg oral, rat	2110 mg/kg, rat	Not Available	0.000	0.000
TRADE SECRET	ALICYCLIC AMINE	Not Available	Not Available	Not Available	Not Available	Not Available
694-83-7	1,2-CYCLOHEXANEDIAMINE	1170 mg/kg, rat, oral	1870 mg/kg, dermal, rat	Not Available	0.000	0.000
TRADE SECRET	ALIPHATIC AMINE	Not Available	Not Available	Not Available	Not Available	Not Available
108-95-2	PHENOL	299 mg/kg, oral, rat	630 mg/kg, dermal	900 mg/m3, inh, rat	0.000	0.000

98-54-4	4-TERT-BUTYLPHENOL	5600 mg/kg skin 1500 mg/kg oral	No Information	No Information	No Information	No Information

Additional Information:
No Information

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): No information available.
IC50 72hr (Algae): No information available.
LC50 96hr (fish): No information available.

12.2 Persistence and degradability: No information available.

12.3 Bioaccumulative potential: No information available.

12.4 Mobility in soil: No information available.

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: No information available.

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
100-51-6	BENZYL ALCOHOL	230 mg/l (Daphnia)	700 mg/l (Algae)	10 mg/l (Fish)
135470-04-1	1,3-BENZENEDIAMINEMETHANEAMINE	No information	No information	No information
25265-17-2	FORMALDEHYDE POLYMER WITH PHENOL	No information	No information	No information
TRADE SECRET	CYCLOALIPHATIC AMINE	No information	No information	No information
TRADE SECRET	ALCOHOL	No information	No information	No information
1477-55-0	BENZENE-1, 3-DIMETHANAMINE	No information	No information	No information
1761-71-3	4,4'-METHYLENEBIS(CYCLOHEXYLAMINE)	6.84 mg/l (Daphnia Magna)	140 mg/l (Algae)	>100 mg/l ((Leuciscus idus)
98-00-0	FURFURYL ALCOHOL	No information	No information	No information
TRADE SECRET	ALICYCLIC AMINE	No information	No information	No information
694-83-7	1,2-CYCLOHEXANEDIAMINE	19.8 mg/l (Daphnia)	29.6 mg/l (Algae)	No information
68131-73-7	POLYETHYLENE POLYAMINES	No information	No information	No information
TRADE SECRET	ALIPHATIC AMINE	No information	No information	No information
108-95-2	PHENOL	4.2 mg/l (Daphnia)	No information	0.00175 mg/l (Fish)
98-54-4	4-TERT-BUTYLPHENOL	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**	UN2735
14.2	**UN proper shipping name**	Amines, Liquid, Corrosive, NOS
	Technical name	(Benzene-1,3-Dimethaneamine(MXDA))
14.3	**Transport hazard class(es)**	8
	Subsidiary shipping hazard	No Information
14.4	**Packing group**	III
14.5	**Environmental hazards**	Marine Pollutant: Yes (Phenol)
14.6	**Special precautions for user**	No information available.
	EmS-No.:	F-A, S-B
14.7	**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**	No information available.

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:

Carcinogenicity, Acute Toxicity (any route of exposure), Skin Corrosion or Irritation, Respiratory or Skin Sensitization

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:

No SARA 313 substances exist in this product above de minimis concentrations.

Toxic Substances Control Act:

All components of this product are either listed on the TSCA Inventory or are exempt.

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

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

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.
AMINE CUREING AGENT	TRADE SECRET

Pennsylvania Right-To-Know

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

Chemical Name	CAS-No.
AMINE CUREING AGENT	TRADE SECRET
POLYAMINE CURING AGENT	TRADE SECRET
POLYAMINE	TRADE SECRET

CALIFORNIA PROPOSITION 65

WARNING: Cancer and Reproductive Harm -- www.P65Warnings.ca.gov

International Regulations: As follows -

* Canadian DSL:

This product contains one or several components listed in the Canadian NDSL list.

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:

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H361F	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Reasons for revision

No Information

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 use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.