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

Product Name: SP-3888 BRUSH HARDENER

Revision Date: 12/05/2022

Supercedes Date: 01/29/2021

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 :

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

Regulatory / Technical Information:
604-514-9711

Datasheet Produced by: Schlereth, Ken - 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, Inhalation, category 2
Hazardous to the aquatic environment, Chronic, category 2
Reproductive_ToxicityF_category_1B
Skin Corrosion, category 1
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product



Signal Word

Danger

Named Chemicals on Label

4,4'-ISOPROPYLIDENEDIPHENOL, BENZYL ALCOHOL, DIETHYLENETRIAMINE, 2-PIPERAZIN-1-YLETHYLAMINE, 1,2-CYCLOHEXANEDIAMINE, PENTAETHYLENEHEXAMINE MIXTURE, DIMETHYLAMINO(METHYL)PHENOL, POLYETHYLENE POLYAMINES, 4-NONYL PHENOL, BRANCHED

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 2	H330-2	Fatal if inhaled.
Reproductive_ToxicityF_category_1B	H360F	May damage fertility.
Hazardous to the aquatic environment, Chronic, category 2	H411	Toxic to aquatic life with long lasting effects.

PRECAUTION PHRASES

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
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+P313	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.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

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	
1,2-CYCLOHEXANEDIAMINE	211-776-7	694-83-7	25 - <50	H302-312-314-317	Acute Tox. 4 Dermal, Acute Tox. 4 Oral, Skin Corr. 1, Skin Sens. 1
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
2-PIPERAZIN-1-YLETHYLAMINE	205-411-0	140-31-8	10 - <25	H302-312-314-317-412	Acute Tox. 4 Dermal, Acute Tox. 4 Oral, Aquatic Chronic 3, Skin Corr. 1, Skin Sens. 1
4,4'-ISOPROPYLIDENEDIPHENOL	201-245-8	80-05-7	10 - <25	H317-318-335-360F-400-410	Aquatic Acute 1, Aquatic Chronic 1, Eye Dam. 1, Repr. 1B, Skin Sens. 1, STOT SE 3 RTI
4-NONYL PHENOL, BRANCHED	284-325-5	84852-15-3	2.5 - <10	H302-314-361FD-400-410	Acute Tox. 4 Oral, Aquatic Acute 1, Aquatic Chronic 1, Repr. 2, Skin Corr. 1
POLYETHYLENE POLYAMINES	268-626-9	68131-73-7	2.5 - <10	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
PENTAETHYLENEHEXAMINE MIXTURE	223-775-9	4067-16-7	1.0 - <2.5	H302-312-314-317-410	
DIMETHYLAMINO (METHYL)PHENOL	246-866-5	25338-55-0	1.0 - <2.5	H302-312-314-332	
DIETHYLENETRIAMINE	203-865-4	111-40-0	1.0 - <2.5	H302-312-314-317-330-335	Acute Tox. 1 Inhalation, Acute Tox. 4 Dermal, Acute Tox. 4 Oral, Skin Corr. 1, Skin Sens. 1, STOT SE 3 RTI

CAS-No.	M-Factors
694-83-7	0
100-51-6	0
140-31-8	0
80-05-7	0
84852-15-3	0
68131-73-7	0
4067-16-7	0
25338-55-0	0
111-40-0	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

Causes burns. May cause sensitization by skin contact. May be harmful if swallowed. Corrosive after repeated contact with skin and mucous membranes.

4.3 Indication of any immediate medical attention and special treatment needed

Immediate medical attention is required.
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: No Information

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)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

Name	CAS-No.	ACGIH TWA	ACGIH STEL	ACGIH Ceiling
1,2-CYCLOHEXANEDIAMINE	694-83-7	N/E	N/E	N/E
BENZYL ALCOHOL	100-51-6	N/E	N/E	N/E
2-PIPERAZIN-1-YLETHYLAMINE	140-31-8	N/E	N/E	N/E
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	N/E	N/E	N/E
4-NONYL PHENOL, BRANCHED	84852-15-3	N/E	N/E	N/E
POLYETHYLENE POLYAMINES	68131-73-7	N/E	N/E	N/E
PENTAETHYLENEHEXAMINE MIXTURE	4067-16-7	N/E	N/E	N/E
DIMETHYLAMINO(METHYL)PHENOL	25338-55-0	N/E	N/E	N/E
DIETHYLENETRIAMINE	111-40-0	1 PPM	N/E	N/E

Name	CAS-No.	OSHA PEL	OSHA STEL
1,2-CYCLOHEXANEDIAMINE	694-83-7	N/E	N/E
BENZYL ALCOHOL	100-51-6	N/E	N/E
2-PIPERAZIN-1-YLETHYLAMINE	140-31-8	N/E	N/E
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	N/E	N/E
4-NONYL PHENOL, BRANCHED	84852-15-3	N/E	N/E
POLYETHYLENE POLYAMINES	68131-73-7	N/E	N/E
PENTAETHYLENEHEXAMINE MIXTURE	4067-16-7	N/E	N/E
DIMETHYLAMINO(METHYL)PHENOL	25338-55-0	N/E	N/E
DIETHYLENETRIAMINE	111-40-0	4 MGM3, 1 PPM	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	Amine
Odor threshold	Not Determined
pH	Not Determined
Melting point / freezing point (°C)	Not Determined
Boiling point/range (°C)	182 F (83 C) - 531 F (277 C)
Flash Point (°C)	200°F (93°C)
Evaporation rate	Slower Than Ether
Flammability (solid, gas)	N/D
Upper/lower flammability or explosive limits	1.3 - 13.0
Vapour Pressure, mmHg	Not Determined
Vapour density	Heavier than Air
Relative density	N/D
Solubility in / Miscibility with water	Not Determined
Partition coefficient: n-octanol/water	N/D
Auto-ignition temperature (°C)	N/D
Decomposition temperature (°C)	N/D
Viscosity	Not Determined
Explosive properties	N/D
Oxidising properties	N/D

9.2 Other information

VOC Content g/l:	0
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: N/D

Inhalation LC50: N/D

Irritation: Unknown

Corrosivity: Skin Corrosion, category 1

Sensitization: Skin Sensitizer, category 1

Repeated dose toxicity: Unknown

Carcinogenicity: Unknown

Mutagenicity: Unknown

Toxicity for reproduction: Reproductive Toxicity, category 1A

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
694-83-7	1,2-CYCLOHEXANEDIAMINE	1170 mg/kg, rat, oral	1870 mg/kg, dermal, rat	Not Available	0.000	0.000
100-51-6	BENZYL ALCOHOL	1230 mg/kg rat, oral	2000 mg/kg, dermal, rabbit	4176 mg/l / 4h, Inh, Rat		

140-31-8	2-PIPERAZIN-1-YLETHYLAMINE	Not Available	Not Available	Not Available	0.000	0.000
80-05-7	4,4'-ISOPROPYLIDENEDIPHENOL	11400 mg/kg, oral, rat	Not Available	Not Available	0.000	0.000
84852-15-3	4-NONYL PHENOL, BRANCHED	1620 mg/kg oral		Not Available	0.000	0.000
4067-16-7	PENTAETHYLENEHEXAMINE MIXTURE	Not Available	Not Available	Not Available	Not Available	Not Available
25338-55-0	DIMETHYLAMINO(METHYL) PHENOL	500 mg/kg, oral, rat		20 mg/L/ 1 hr. rat	0.000	0.000
111-40-0	DIETHYLENETRIAMINE	1080 mg/kg, oral, rat	1045 mg/kg, dermal, rabbit	Not Available	0.000	Not Available

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
694-83-7	1,2-CYCLOHEXANEDIAMINE	19.8 mg/l (Daphnia)	29.6 mg/l (Algae)	No information
100-51-6	BENZYL ALCOHOL	230 mg/l (Daphnia)	700 mg/l (Algae)	10 mg/l (Fish)
140-31-8	2-PIPERAZIN-1-YLETHYLAMINE	No information	No information	No information
80-05-7	4,4'-ISOPROPYLIDENEDIPHENOL	No information	No information	No information
84852-15-3	4-NONYL PHENOL, BRANCHED	No information	No information	No information
68131-73-7	POLYETHYLENE POLYAMINES	No information	No information	No information
4067-16-7	PENTAETHYLENEHEXAMINE MIXTURE	No information	No information	No information
25338-55-0	DIMETHYLAMINO(METHYL)PHENOL	No information	No information	No information
111-40-0	DIETHYLENETRIAMINE	32 mg/l (Daphnia)	1164 mg/l (Algae)	430 mg/l (Fish)

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	(Aminoethylpiperazine)
14.3	**Transport hazard class(es)**	8
	Subsidiary shipping hazard	N/A
14.4	**Packing group**	PGIII
14.5	**Environmental hazards**	No information available.
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:

Acute Toxicity (any route of exposure), Reproductive toxicity, 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:

Chemical Name	CAS-No.	%
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	10.88
4-NONYL PHENOL, BRANCHED	84852-15-3	4.86

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.
POLYAMINE	TRADE SECRET

Pennsylvania Right-To-Know

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

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

CALIFORNIA PROPOSITION 65

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

International Regulations: As follows -

* Canadian DSL:

All chemical ingredients included on inventory (DSL)

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:

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H360F	May damage fertility.
H361FD	Suspected of damaging fertility. Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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.