



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	R372B1NL	Revision Date:	12/05/2022
Product Name:	SP-2888 RG CARTRIDGE HARDENER	Supersedes Date:	01/29/2021
1.2 Relevant identified uses of the substance or mixture and uses advised against	Coating - Industrial use		
1.3 Details of the supplier of the safety data sheet	<p>Manufacturer : Specialty Polymer Coatings Division Carboline Global Inc. 2150 Schuetz Road St. Louis, Mo. 63146</p> <p>Regulatory / Technical Information: 604-514-9711</p> <p>Datasheet Produced by: Schlereth, Ken - regulatory@carboline.com</p>		
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
 Carcinogenicity, category 1A
 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, 4-TERT-BUTYLPHENOL, BENZYL ALCOHOL, DIETHYLENTRIAMINE, 2-PIPERAZIN-1-YLETHYLAMINE, 1,2-CYCLOHEXANEDIAMINE, BENZENE-1, 3-DIMETHANAMINE, MICROCRYSTALLINE SILICA, 4-NONYL PHENOL, BRANCHED

HAZARD STATEMENTS

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.
Carcinogenicity, category 1A	H350-1A	May cause cancer.
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.
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
P308+P313	IF exposed or concerned: Get medical advice/attention
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
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

<u>Name According to EEC</u>	<u>EINEC No.</u>	<u>CAS-No.</u>	<u>%</u>	<u>Classifications</u>	
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	2.5 - <10	H302-312-314-317-412	Acute Tox. 4 Dermal, Acute Tox. 4 Oral, Aquatic Chronic 3, Skin Corr. 1, Skin Sens. 1
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'-ISOPROPYLIDENEDIPHENOL	201-245-8	80-05-7	2.5 - <10	H317-318-335-360F-400-410	Aquatic Acute 1, Aquatic Chronic 1, Eye Dam. 1, Repr. 1B, Skin Sens. 1, STOT SE 3 RTI
DIETHYLENETRIAMINE	203-865-4	111-40-0	2.5 - <10	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
4-TERT-BUTYLPHENOL	202-679-0	98-54-4	2.5 - <10	H315-318-361F-410	Aquatic Chronic 1, Eye Dam. 1, Repr. 2, Skin Irrit. 2
MICROCRYSTALLINE SILICA	238-878-4	14808-60-7	2.5 - <10	H350-372	Carc. 1A, STOT RE 1
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
4-NONYL PHENOL, BRANCHED	284-325-5	84852-15-3	1.0 - <2.5	H302-314-361FD-400-410	Acute Tox. 4 Oral, Aquatic Acute 1, Aquatic Chronic 1, Repr. 2, Skin Corr. 1
TITANIUM DIOXIDE	236-675-5	13463-67-7	0.1 - <1.0		

<u>CAS-No.</u>	<u>M-Factors</u>
100-51-6	0
140-31-8	0
1477-55-0	0
80-05-7	0
111-40-0	0
98-54-4	0
14808-60-7	0
694-83-7	0
84852-15-3	0
13463-67-7	0

Remarks: CAS No 13463-67-7: Note 10

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: 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. Do not breathe vapours or spray mist. 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. 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)

<u>Name</u>	<u>CAS-No.</u>	<u>ACGIH TWA</u>	<u>ACGIH STEL</u>	<u>ACGIH Ceiling</u>
BENZYL ALCOHOL	100-51-6	N/E	N/E	N/E
2-PIPERAZIN-1-YLETHYLAMINE	140-31-8	N/E	N/E	N/E
BENZENE-1, 3-DIMETHANAMINE	1477-55-0	N/E	N/E	0.1 MGM3
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	N/E	N/E	N/E
DIETHYLENETRIAMINE	111-40-0	1 PPM	N/E	N/E
4-TERT-BUTYLPHENOL	98-54-4	N/E	N/E	N/E
MICROCRYSTALLINE SILICA	14808-60-7	0.025 MGM3	N/E	N/E
1,2-CYCLOHEXANEDIAMINE	694-83-7	N/E	N/E	N/E
4-NONYL PHENOL, BRANCHED	84852-15-3	N/E	N/E	N/E
TITANIUM DIOXIDE	13463-67-7	10 mg/m3	N/E	N/E

<u>Name</u>	<u>CAS-No.</u>	<u>OSHA PEL</u>	<u>OSHA STEL</u>
BENZYL ALCOHOL	100-51-6	N/E	N/E
2-PIPERAZIN-1-YLETHYLAMINE	140-31-8	N/E	N/E
BENZENE-1, 3-DIMETHANAMINE	1477-55-0	N/E	N/E
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	N/E	N/E
DIETHYLENETRIAMINE	111-40-0	4 MGM3, 1 PPM	N/E
4-TERT-BUTYLPHENOL	98-54-4	N/E	N/E
MICROCRYSTALLINE SILICA	14808-60-7	0.05 MGM3	N/E
1,2-CYCLOHEXANEDIAMINE	694-83-7	N/E	N/E
4-NONYL PHENOL, BRANCHED	84852-15-3	N/E	N/E
TITANIUM DIOXIDE	13463-67-7	15 MGM3	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:	Viscous Liquid
Physical State	Liquid
Odor	Mild
Odor threshold	Not Determined
pH	Not Determined
Melting point / freezing point (°C)	Not Determined
Boiling point/range (°C)	173 F (78 C) - 572 F (300 C)
Flash Point (°C)	201°F (93°C)
Evaporation rate	Slower Than Ether
Flammability (solid, gas)	N/D
Upper/lower flammability or explosive limits	1.3 - 19.0
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/cm ³)	1.51

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 (NO_x), 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: Carcinogenicity, category 1A

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:

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>	<u>Gas LC50</u>	<u>Dust/Mist LC50</u>
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

1477-55-0	BENZENE-1, 3-DIMETHANAMINE	930 mg/kg, oral, rat	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
111-40-0	DIETHYLENETRIAMINE	1080 mg/kg, oral, rat	1045 mg/kg, dermal, rabbit	Not Available	0.000	Not Available
98-54-4	4-TERT-BUTYLPHENOL	5600 mg/kg skin 1500 mg/kg oral			0.000	0.000
14808-60-7	MICROCRYSTALLINE SILICA	22500 mg/kg	Not Available	Not Available	0.000	0.000
694-83-7	1,2-CYCLOHEXANEDIAMINE	1170 mg/kg, rat, oral	1870 mg/kg, dermal, rat	Not Available	0.000	0.000
84852-15-3	4-NONYL PHENOL, BRANCHED	1620 mg/kg oral		Not Available	0.000	0.000
13463-67-7	TITANIUM DIOXIDE	25000 mg/kg, oral (rat)	Not Available	Not Available	No Information	No Information

Additional Information:

Constituents of this product may include crystalline silica which, if inhalable, may cause silicosis, a form of progressive pulmonary fibrosis. Inhalable crystalline silica is listed by IARC as a group 1 carcinogen (lung) based on sufficient evidence in occupationally exposed humans and sufficient evidence in animals. Crystalline silica is also listed by the NTP as a known human carcinogen. This classification is relevant when exposed to Quartz (silicon dioxide) in dust or powder form only, including cured product that is subject to sanding, grinding, cutting, or other surface preparation activities. Constituents may also include asbestos or non-asbestos tremolite or other silicates as impurities, and above the minimum exposure to these impurities in inhalable form may be carcinogenic or cause other serious lung problems.

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.

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
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
1477-55-0	BENZENE-1, 3-DIMETHANAMINE	No information	No information	No information
80-05-7	4,4'-ISOPROPYLIDENEDIPHENOL	No information	No information	No information
111-40-0	DIETHYLENETRIAMINE	32 mg/l (Daphnia)	1164 mg/l (Algae)	430 mg/l (Fish)
98-54-4	4-TERT-BUTYLPHENOL	No information	No information	No information
14808-60-7	MICROCRYSTALLINE SILICA	No information	No information	No information

694-83-7	1,2-CYCLOHEXANEDIAMINE	19.8 mg/l (Daphnia)	29.6 mg/l (Algae)	No information
84852-15-3	4-NONYL PHENOL, BRANCHED	No information	No information	No information
13463-67-7	TITANIUM DIOXIDE	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	(aminoethylpiperazine, diethylenetriamine)
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:

Carcinogenicity, 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:

<u>Chemical Name</u>	<u>CAS-No.</u>	<u>%</u>
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	3.93
4-NONYL PHENOL, BRANCHED	84852-15-3	1.75

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.

<u>Chemical Name</u>	<u>CAS-No.</u>
FELDSPAR	68476-25-5
ALUMINA	1344-28-1

Pennsylvania Right-To-Know

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

<u>Chemical Name</u>	<u>CAS-No.</u>
FELDSPAR	68476-25-5
ALUMINA	1344-28-1
ALIPHATIC AMINE	TRADE SECRET
POLYAMINE	TRADE SECRET
AMINE CURING AGENT	TRADE SECRET

CALIFORNIA PROPOSITION 65

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

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:**

H302	Harmful if swallowed.
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.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H350	May cause cancer.
H360F	May damage fertility.
H361F	Suspected of damaging fertility.
H361FD	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
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.