



Safety Data Sheet

prepared to UN GHS Revision 3

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

- 1.1 Product Identifier 200-UNV-A Revision Date: 03/20/2015
 Product Name: High Performance Resin Base A Supercedes Date: 01/30/2014
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
 Base component of 2 components coatings - Industrial use.
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer: Flowcrete North America, Inc.
 616 Spring Hill Drive, Suite 100
 Spring, TX 77386
 americas@flowcrete.com
 www.flowcreteamericas.com
 Tel: (936) 539-6700
 Fax: (936) 539-6701
- Datasheet Produced by: Anderson, Paul - americas@flowcrete.com
- 1.4 Emergency telephone number: CHEMTREC +1 703 5273887 (Outside US)

2. Hazard Identification

- 2.1 Classification of the substance or mixture
- Hazardous to the aquatic environment, Chronic, category 2
 Carcinogenicity, category 1A
 Eye Irritation, 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

reaction product: bisphenol-a-(epichlorhydrin) epoxy resin (number average molecularweight <= 700), oxirane, mono [(c12-14-alkyloxy)methyl] derivs.

HAZARD STATEMENTS

| | | |
|---|---------|--|
| Hazardous to the aquatic environment, Chronic, category 2 | H411 | Toxic to aquatic life with long lasting effects. |
| Carcinogenicity, category 1A | H350-1A | May cause cancer. |
| Eye Irritation, category 2 | H319 | Causes serious eye irritation. |
| Skin Irritation, category 2 | H315 | Causes skin irritation. |
| Skin Sensitizer, category 1 | H317 | May cause an allergic skin reaction. |

PRECAUTION PHRASES

| | |
|--------------|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| 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. |

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

| <u>CAS-No.</u> | <u>Chemical Name</u> | <u>%</u> |
|----------------|----------------------|----------|
|----------------|----------------------|----------|

| | | |
|------------|---|---------|
| 25068-38-6 | reaction product bisphenol-a-(epichlorhydrin) epoxy resin (number average molecularweight <= 700) | 75-100 |
| 68609-97-2 | oxirane, mono[(c12-14-alkyloxy)methyl] derivs. | 2.5-10 |
| 64742-46-7 | distillates (petroleum), hydrotreated middle | 0.1-1.0 |
| 64742-95-6 | solvent naphtha (petroleum), light arom. | 0.1-1.0 |
| 108-83-8 | 2,6-dimethylheptan-4-one | 0.1-1.0 |

| <u>CAS-No.</u> | <u>GHS Symbols</u> | <u>GHS Hazard Statements</u> | <u>M-Factors</u> |
|----------------|--------------------|------------------------------|------------------|
| 25068-38-6 | GHS07-GHS09 | H315-317-319-411 | 0 |
| 68609-97-2 | GHS07 | H315-317 | 0 |
| 64742-46-7 | GHS08 | H350 | 0 |
| 64742-95-6 | GHS02-GHS08-GHS09 | H226-304-411 | 0 |
| 108-83-8 | GHS02-GHS07 | H226-335 | 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

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

AFTER INHALATION: Move to fresh air. Consult a physician after significant exposure.

AFTER SKIN CONTACT: Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. If eye irritation persists, consult a specialist.

AFTER INGESTION: Gently wipe or rinse the inside of the mouth with water. Give small amounts of water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Self protection of the first aider:

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Irritating to skin. May cause sensitization by skin contact. Prolonged or repeated exposure increases the risk. Harmful to aquatic organisms.

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

FOR SAFETY REASONS NOT TO BE USED: Alcohol, Alcohol based solutions, any other media not listed above.

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. High volume water jet. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Contains epoxy constituents. See information supplied by the manufacturer.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains. May cause long-term adverse effects in the aquatic environment

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

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: Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment

PROTECTION AND HYGIENE MEASURES: 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: Extremes of temperature and direct sunlight

STORAGE CONDITIONS: Store in original container. Keep locked up or in an area accessible only to qualified or authorised persons. 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>%</u> | <u>OSHA PEL</u> | <u>Company TLV</u> |
|---|----------|-----------------|--------------------|
| reaction product bisphenol-a-(epichlorhydrin) | 75-100 | | |
| epoxy resin (number average molecularweight <= 700) | | | |
| oxirane, mono[(c12-14-alkyloxy)methyl] derivs. | 2.5-10 | | |
| distillates (petroleum), hydrotreated middle | 0.1-1.0 | | |
| solvent naphtha (petroleum), light arom. | 0.1-1.0 | 500.0 PPM | |
| 2,6-dimethylheptan-4-one | 0.1-1.0 | 50.0 PPM | |

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

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: No personal respiratory protective equipment normally required.

EYE PROTECTION: Safety glasses.

HAND PROTECTION: Rubber or plastic gloves. Long sleeved clothing. Remove and wash contaminated clothing before re-

use. Rubber or plastic apron.

OTHER PROTECTIVE EQUIPMENT: No Information

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: | Transparent Resin |
| Physical State | Liquid |
| Odor | Weak Epoxy |
| Odor threshold | Not determined |
| pH | Non-aqueous |
| Melting point /freezing point (°C) | Not determined |
| Boiling point/range (°C) | 136 - N.D. |
| Flash Point, (°C) | 93 |
| Evaporation rate | Not determined |
| Flammability (solid, gas) | Not determined |
| Upper/lower flammability or explosive limits | 999 - 0 |
| Vapour Pressure | Not determined |
| Vapour density | 1.16 g/cm ³ |
| Relative density | Not determined |
| Solubility in /Miscibility with water | Insoluble |
| Partition coefficient: n-octanol/water | Not determined |
| Auto-ignition temperature (°C) | Not determined |
| Decomposition temperature (°C) | Not determined |
| Viscosity | Not determined |
| Explosive properties | N/A |
| Oxidising properties | N/A |

9.2 Other information

| | |
|---------------------------------------|-------|
| VOC Content g/l: | 20 |
| Specific Gravity (g/cm ³) | 0.120 |

10. Stability and Reactivity

10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed. Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Extremes of temperature and direct sunlight

10.5 Incompatible materials

Strong oxidizing agents. Acids and bases.

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapours. Alcohols. Exothermic reaction. 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:

Inhalation LC50:

Irritation: Irritating to eyes, skin, mouth and pharynx.

Corrosivity: No information available.

Sensitization: Prolonged or repeated skin contact may result in allergic eczema.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

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> |
|----------------|---|------------------------|--------------------|-----------------------------------|
| 25068-38-6 | reaction product bisphenol-a-(epichlorhydrin) epoxy resin (number average molecularweight <= 700) | >2000 mg/kg, rat, oral | >2000 mg/kg, rat | |
| 68609-97-2 | oxirane, mono[(c12-14-alkyloxy)methyl] derivs. | 17100 mg/kg, oral, rat | | |
| 64742-46-7 | distillates (petroleum), hydrotreated middle | 3160 mg/kg rabbit oral | | |
| 64742-95-6 | solvent naphtha (petroleum), light arom. | 4700 mg/kg, oral, rat | >2000 mg/kg | 3670 ppm/8 hours, rat, inhalation |
| 108-83-8 | 2,6-dimethylheptan-4-one | 3200 mg/kg, oral, rat | | 1979 ppm /6 hrs, rat, inhalation |

Additional Information:

No Information

12. Ecological Information

| | | |
|------|------------------------------------|--|
| 12.1 | Toxicity: | |
| | EC50 48hr (Daphnia): | No information |
| | IC50 72hr (Algae): | No information |
| | LC50 96hr (fish): | No information |
| 12.2 | Persistence and degradability: | No information |
| 12.3 | Bioaccumulative potential: | No information |
| 12.4 | Mobility in soil: | No information |
| 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 |

| <u>CAS-No.</u> | <u>Chemical Name</u> | <u>EC50 48hr</u> | <u>IC50 72hr</u> | <u>LC50 96hr</u> |
|----------------|---|------------------|------------------|------------------|
| 25068-38-6 | reaction product bisphenol-a-(epichlorhydrin) epoxy resin (number average molecularweight <= 700) | No information | No information | |
| 68609-97-2 | oxirane, mono[(c12-14-alkyloxy)methyl] derivs. | No information | No information | |
| 64742-46-7 | distillates (petroleum), hydrotreated middle | No information | No information | |
| 64742-95-6 | solvent naphtha (petroleum), light arom. | >1 - 10 mg/l | >1 - 10 mg/l | >10-100 mg/l |
| 108-83-8 | 2,6-dimethylheptan-4-one | No information | No information | |

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

| | | |
|------|--|---|
| 14.1 | UN number | UN3082 |
| 14.2 | UN proper shipping name | Environmentally Hazardous Substance, Liquid, N.O.S. |
| | Technical name | Epoxy Resin |
| 14.3 | Transport hazard class(es) | 9 |
| | Subsidiary shipping hazard | N/A |
| 14.4 | Packing group | III |
| 14.5 | Environmental hazards | Yes |
| 14.6 | Special precautions for user | Not applicable |
| | EmS-No.: | |
| 14.7 | Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code | Not applicable |

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 Health Hazard

Sara Section 313:

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

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|------------------------|----------------|
| 1,2,4-trimethylbenzene | 95-63-6 |
| xylene | 1330-20-7 |
| ethylbenzene | 100-41-4 |

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:

No TSCA 12(b) components exist in this product

U.S. Clean Air Act

| | |
|------------------------------|----------------------------|
| EPA Coating Category: | Floor Coatings |
| EPA VOC Content Limit (g/l): | 400 |
| Product VOC Content (g/l) | <20 |
| Thinning Recommendations: | None |
| Application Recommendations: | For professional use only. |

* As per the federal EPA definition for coating categories in 40 CFR 59.401.

** Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.

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> |
|------------------------|----------------|
| No Chemical Name Found | |

Pennsylvania Right-To-Know

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

No PA Right-To-Know components exist in this product

California Proposition 65:

Warning: The following ingredients present in the product are known to the State of California to cause cancer:

No Proposition 65 Carcinogens exist in this product

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

No Proposition 65 Reproductive Toxins exist in this product

International Regulations: As follows -

* Canadian DSL:

All chemical ingredients included on inventory or exempt.

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

| | |
|------|--|
| H226 | Flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H350 | May cause cancer. |
| H411 | Toxic to aquatic life with long lasting effects. |

Reasons for revision

This is a new Safety Data Sheet (SDS).

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark
 ESIS (The European Chemical Substances Information System), provided by the European Commission
 Joint Research Centre in Ispra, Italy
 Annex VI of the EU Council Directive 67/548/EEC
 Council Directive 67/548/EEC - Annex I or EU Council Directive 1999/45/EC
 European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of
 substances and mixtures (CLP Regulation)
 EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes"

Acronym & Abbreviation Key:

| | |
|--------|--|
| CLP | Classification, Labeling & Packaging Regulation |
| EC | European Commission |
| EU | European Union |
| US | United States |
| CAS | Chemical Abstract Service |
| EINECS | European Inventory of Existing Chemical Substances |
| REACH | Registration, Evaluation, Authorization of Chemicals Regulation |
| GHS | Globally Harmonized System of Classification and Labeling of Chemicals |
| LTEL | Long term exposure limit |
| STEL | Short term exposure limit |
| OEL | Occupational exposure limit |
| ppm | Parts per million |

| | |
|-------------------|---|
| mg/m ³ | Milligrams per cubic meter |
| TLV | Threshold Limit Value |
| ACGIH | American Conference of Governmental Industrial Hygienists |
| OSHA | Occupational Safety & Health Administration |
| PEL | Permissible Exposure Limits |
| VOC | Volatile organic compounds |
| g/l | Grams per liter |
| mg/kg | Milligrams per kilogram |
| N/A | Not applicable |
| LD50 | Lethal dose at 50% |
| LC50 | Lethal concentration at 50% |
| EC50 | Half maximal effective concentration |
| IC50 | Half maximal inhibitory concentration |
| PBT | Persistent bioaccumulative toxic chemical |
| vPvB | Very persistent and very bioaccumulative |
| EEC | European Economic Community |
| ADR | International Transport of Dangerous Goods by Road |
| RID | International Transport of Dangerous Goods by Rail |
| UN | United Nations |
| IMDG | International Maritime Dangerous Goods Code |
| IATA | International Air Transport Association |
| MARPOL | International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 |
| IBC | International Bulk Container |

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.



Safety Data Sheet

prepared to UN GHS Revision 3

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

- 1.1 Product Identifier 203-PRIME -B Revision Date: 03/20/2015
Product Name: Flowprime Hardener B Supercedes Date: 07/31/2014
- 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: Flowcrete North America, Inc.
616 Spring Hill Drive, Suite 100
Spring, TX 77386
americas@ flowcrete.com
www.flowcreteamericas.com
Tel: (936) 539-6700
Fax: (936) 539-6701
- Datasheet Produced by: Anderson, Paul - americas@ flowcrete.com
- 1.4 Emergency telephone number: CHEMTREC +1 703 5273887 (Outside US)

2. Hazard Identification

- 2.1 Classification of the substance or mixture
- Acute Toxicity, Oral, category 4
 - Acute Toxicity, Inhalation, category 4
 - Hazardous to the aquatic environment, Chronic, category 3
 - Skin Corrosion, category 1
 - Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product



Signal Word

Danger

Named Chemicals on Label

benzyl alcohol, benzene-1, 3-dimethanamine, 3-aminomethyl-3,5,5-trimethylcyclohexylamine

HAZARD STATEMENTS

| | | |
|---|--------|--|
| Acute Toxicity, Oral, category 4 | H302 | Harmful if swallowed. |
| Acute Toxicity, Inhalation, category 4 | H332 | Harmful if inhaled. |
| Hazardous to the aquatic environment, Chronic, category 3 | H412 | Harmful to aquatic life with long lasting effects. |
| Skin Corrosion, category 1 | H314-1 | Causes severe skin burns and eye damage. |
| Skin Sensitizer, category 1 | H317 | May cause an allergic skin reaction. |

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. |
| P302+352 | IF ON SKIN: Wash with plenty of soap and water. |
| P303+361+353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304+340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P333+313 | If skin irritation or rash occurs: Get medical advice/attention. |

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

| <u>CAS-No.</u> | <u>Chemical Name</u> | <u>%</u> |
|----------------|--|----------|
| 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine | 10-25 |
| 100-51-6 | benzyl alcohol | 10-25 |
| 1477-55-0 | benzene-1, 3-dimethanamine | 10-25 |

| <u>CAS-No.</u> | <u>GHS Symbols</u> | <u>GHS Hazard Statements</u> | <u>M-Factors</u> |
|----------------|--------------------|------------------------------|------------------|
| 100-51-6 | GHS07 | H302-319-332 | 0 |

| | | | |
|-----------|-------------|----------------------|---|
| 2855-13-2 | GHS05-GHS07 | H302-312-314-317-412 | 0 |
| 1477-55-0 | GHS05-GHS06 | H302-314-317-331-412 | 0 |

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

4. First-aid Measures

4.1 Description of First Aid Measures

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

AFTER INHALATION: Move to fresh air. Consult a physician after significant exposure.

AFTER SKIN CONTACT: Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

AFTER EYE CONTACT: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses.

AFTER INGESTION: Gently wipe or rinse the inside of the mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Self protection of the first aider:

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe burns. Harmful in contact with skin and if swallowed. Irritating to eyes and respiratory system.

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

FOR SAFETY REASONS NOT TO BE USED: Alcohol, Alcohol based solutions, any other media not listed above.

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. High volume water jet. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use 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

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

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: Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Do not breathe vapours or spray mist.

PROTECTION AND HYGIENE MEASURES: 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: Direct sources of heat

STORAGE CONDITIONS: Store in original container. Keep locked up or in an area accessible only to qualified or authorised persons. 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>%</u> | <u>OSHA PEL</u> | <u>Company TLV</u> |
|--|----------|-----------------|--------------------|
| 3-aminomethyl-3,5,5-trimethylcyclohexylamine | 10-25 | | |
| benzyl alcohol | 10-25 | | |
| benzene-1, 3-dimethanamine | 10-25 | | |

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

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: Respirator with filter for organic vapor.

EYE PROTECTION: Safety glasses.

HAND PROTECTION: Rubber or plastic gloves. Long sleeved clothing. Remove and wash contaminated clothing before re-use. Rubber or plastic apron.

OTHER PROTECTIVE EQUIPMENT: No Information

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: | Light Yellow - Clear |
| Physical State | Liquid |
| Odor | Amine Like |
| Odor threshold | Not determined |
| pH | 11-12 |
| Melting point /freezing point (°C) | Not determined |

| | |
|--|----------------------------|
| Boiling point/range (°C) | 302 F - N.D. |
| Flash Point (°C) | 93 |
| Evaporation rate | Not determined |
| Flammability (solid, gas) | Not determined |
| Upper/lower flammability or explosive limits | 999 - 0 |
| Vapour Pressure | Not determined |
| Vapour density | ca. 1.05 g/cm ³ |
| Relative density | Not determined |
| Solubility in /Miscibility with water | Limited |
| Partition coefficient: n-octanol/water | Not determined |
| Auto-ignition temperature (°C) | Not determined |
| Decomposition temperature (°C) | Not determined |
| Viscosity | Not determined |
| Explosive properties | N/A |
| Oxidising properties | Not determined |

9.2 Other information

| | |
|---------------------------------------|-------|
| VOC Content g/l: | 12 |
| Specific Gravity (g/cm ³) | 0.120 |

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 may occur.

10.4 Conditions to avoid

Direct sources of heat

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:

Inhalation LC50:

Irritation: No information available.

Corrosivity: Causes burns. Dehydrating on skin. Eye contact may cause irreversible damage.

Sensitization: Prolonged or repeated skin contact may result in allergic eczema.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

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> |
|----------------|--|----------------------|--------------------|--------------------------------|
| 100-51-6 | benzyl alcohol | 1230 mg/kg rat, oral | | 1000 ppm /8 hrs rat inhalation |
| 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine | 500 mg/kg oral | | |
| 1477-55-0 | benzene-1, 3-dimethanamine | 1514 mg/kg, oral | | |

Additional Information:

No Information

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): No information

IC50 72hr (Algae): No information

LC50 96hr (fish): No information

12.2 Persistence and degradability: No information

12.3 Bioaccumulative potential: No information

12.4 Mobility in soil: No information

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

| <u>CAS-No.</u> | <u>Chemical Name</u> | <u>EC50 48hr</u> | <u>IC50 72hr</u> | <u>LC50 96hr</u> |
|----------------|--|------------------|------------------|------------------|
| 2855-13-2 | 3-aminomethyl-3,5,5-trimethylcyclohexylamine | No information | No information | |
| 100-51-6 | benzyl alcohol | No information | No information | |
| 1477-55-0 | benzene-1, 3-dimethanamine | No information | No information | |

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: If recycling is not practicable, dispose of in compliance 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, N.O.S. |
| Technical name | Benzene-1,3-Dimethanamine, 3-aminomethyl-3,5,5-trimethylcyclohexylamine |
| 14.3 Transport hazard class(es) | 8 |
| Subsidiary shipping hazard | N/A |
| 14.4 Packing group | PG III |
| 14.5 Environmental hazards | RQ 1001 lbs. |
| 14.6 Special precautions for user | Not applicable |
| EmS-No.: | |
| 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code | Not applicable |

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 Health Hazard

Sara Section 313:

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

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| ethylenediamine | 107-15-3 |

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:

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| ethylenediamine | 107-15-3 |

U.S. Clean Air Act

| | |
|------------------------------|----------------------------|
| EPA Coating Category: | Floor Coatings |
| EPA VOC Content Limit (g/l): | 400 |
| Product VOC Content (g/l) | 12 |
| Thinning Recommendations: | None |
| Application Recommendations: | For professional use only. |

* As per the federal EPA definition for coating categories in 40 CFR 59.401.

** Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.

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> |
|------------------------|----------------|
| No Chemical Name Found | |

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> |
|------------------------|----------------|
| No Chemical Name Found | |

California Proposition 65:

Warning: The following ingredients present in the product are known to the State of California to cause cancer:

No Proposition 65 Carcinogens exist in this product

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

No Proposition 65 Reproductive Toxins exist in this product

International Regulations: As follows -*** Canadian DSL:**

All chemical ingredients included on inventory or exempt.

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. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H412 | Harmful to aquatic life with long lasting effects. |

Reasons for revision

This is a new Safety Data Sheet (SDS).

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark
 ESIS (The European Chemical Substances Information System), provided by the European Commission
 Joint Research Centre in Ispra, Italy
 Annex VI of the EU Council Directive 67/548/EEC
 Council Directive 67/548/EEC - Annex I or EU Council Directive 1999/45/EC
 European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of
 substances and mixtures (CLP Regulation)
 EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes"

Acronym & Abbreviation Key:

| | |
|-------------------|---|
| CLP | Classification, Labeling & Packaging Regulation |
| EC | European Commission |
| EU | European Union |
| US | United States |
| CAS | Chemical Abstract Service |
| EINECS | European Inventory of Existing Chemical Substances |
| REACH | Registration, Evaluation, Authorization of Chemicals Regulation |
| GHS | Globally Harmonized System of Classification and Labeling of Chemicals |
| LTEL | Long term exposure limit |
| STEL | Short term exposure limit |
| OEL | Occupational exposure limit |
| ppm | Parts per million |
| mg/m ³ | Milligrams per cubic meter |
| TLV | Threshold Limit Value |
| ACGIH | American Conference of Governmental Industrial Hygienists |
| OSHA | Occupational Safety & Health Administration |
| PEL | Permissible Exposure Limits |
| VOC | Volatile organic compounds |
| g/l | Grams per liter |
| mg/kg | Milligrams per kilogram |
| N/A | Not applicable |
| LD50 | Lethal dose at 50% |
| LC50 | Lethal concentration at 50% |
| EC50 | Half maximal effective concentration |
| IC50 | Half maximal inhibitory concentration |
| PBT | Persistent bioaccumulative toxic chemical |
| vPvB | Very persistent and very bioaccumulative |
| EEC | European Economic Community |
| ADR | International Transport of Dangerous Goods by Road |
| RID | International Transport of Dangerous Goods by Rail |
| UN | United Nations |
| IMDG | International Maritime Dangerous Goods Code |
| IATA | International Air Transport Association |
| MARPOL | International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 |

IBC International Bulk Container

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.



Safety Data Sheet

prepared to UN GHS Revision 3

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

- 1.1 Product Identifier 215-SKN-A-FORMULA Revision Date: 04/08/2015
Product Name: Flowcoat SKN Base A Supercedes Date: New SDS
- 1.2 Relevant identified uses of the substance or mixture and uses advised against Base component of 2 components coatings - Industrial use.
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer: Flowcrete North America, Inc.
616 Spring Hill Drive, Suite 100
Spring, TX 77386
americas@flowcrete.com
www.flowcreteamericas.com
Tel: (936) 539-6700
Fax: (936) 539-6701
- Datasheet Produced by: Anderson, Paul - americas@flowcrete.com
- 1.4 Emergency telephone number: CHEMTREC +1 703 5273887 (Outside US)

2. Hazard Identification

- 2.1 Classification of the substance or mixture
- Hazardous to the aquatic environment, Chronic, category 2
Carcinogenicity, category 1A
Eye Irritation, 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

phenol, polymer with formaldehyde, glycidyl ether

HAZARD STATEMENTS

| | | |
|---|---------|--|
| Hazardous to the aquatic environment, Chronic, category 2 | H411 | Toxic to aquatic life with long lasting effects. |
| Carcinogenicity, category 1A | H350-1A | May cause cancer. |
| Eye Irritation, category 2 | H319 | Causes serious eye irritation. |
| Skin Irritation, category 2 | H315 | Causes skin irritation. |
| Skin Sensitizer, category 1 | H317 | May cause an allergic skin reaction. |

PRECAUTION PHRASES

| | |
|--------------|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| 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. |

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

| <u>CAS-No.</u> | <u>Chemical Name</u> | <u>%</u> |
|----------------|---|----------|
| 28064-14-4 | phenol, polymer with formaldehyde, glycidyl ether | 75-100 |
| 64742-46-7 | distillates (petroleum), hydrotreated middle | 0.1-1.0 |

| <u>CAS-No.</u> | <u>GHS Symbols</u> | <u>GHS Hazard Statements</u> | <u>M-Factors</u> |
|----------------|--------------------|------------------------------|------------------|
| 28064-14-4 | GHS07-GHS09 | H315-317-319-411 | 0 |
| 64742-46-7 | GHS08 | H350 | 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

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

AFTER INHALATION: Move to fresh air. Consult a physician after significant exposure.

AFTER SKIN CONTACT: Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. If eye irritation persists, consult a specialist

AFTER INGESTION: Gently wipe or rinse the inside of the mouth with water. Give small amounts of water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Self protection of the first aider:

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Irritating to skin. May cause sensitization by skin contact. Prolonged or repeated exposure increases the risk. Harmful to aquatic organisms.

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

FOR SAFETY REASONS NOT TO BE USED: Alcohol, Alcohol based solutions, any other media not listed above.

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. High volume water jet. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Contains epoxy constituents. See information supplied by the manufacturer.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains. May cause long-term adverse effects in the aquatic environment

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

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: Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment

PROTECTION AND HYGIENE MEASURES: 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: Extremes of temperature and direct sunlight

STORAGE CONDITIONS: Store in original container. Keep locked up or in an area accessible only to qualified or authorised persons. 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>%</u> | <u>OSHA PEL</u> | <u>Company TLV</u> |
|---|----------|-----------------|--------------------|
| phenol, polymer with formaldehyde, glycidyl ether | 75-100 | | |
| distillates (petroleum), hydrotreated middle | 0.1-1.0 | | |

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

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: No personal respiratory protective equipment normally required.

EYE PROTECTION: Safety glasses.

HAND PROTECTION: Rubber or plastic gloves. Long sleeved clothing. Remove and wash contaminated clothing before re-use. Rubber or plastic apron.

OTHER PROTECTIVE EQUIPMENT: No Information

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: | Transparent resin |
| Physical State | Liquid |
| Odor | Weak epoxy |

| | |
|--|------------------------|
| Odor threshold | Not determined |
| pH | Non-aqueous |
| Melting point /freezing point (°C) | Not determined |
| Boiling point/range (°C) | 64 - N.D. |
| Flash Point, (°C) | 999 |
| Evaporation rate | Not determined |
| Flammability (solid, gas) | Not determined |
| Upper/lower flammability or explosive limits | 999 - 0 |
| Vapour Pressure | Not determined |
| Vapour density | 1.16 g/cm ³ |
| Relative density | Not determined |
| Solubility in /Miscibility with water | Insoluble |
| Partition coefficient: n-octanol/water | Not determined |
| Auto-ignition temperature (°C) | Not determined |
| Decomposition temperature (°C) | Not determined |
| Viscosity | Not determined |
| Explosive properties | N/A |
| Oxidising properties | N/A |
| 9.2 Other information | |
| VOC Content g/l: | 20 |
| Specific Gravity (g/cm ³) | 0.120 |

10. Stability and Reactivity

10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed. Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Extremes of temperature and direct sunlight

10.5 Incompatible materials

Strong oxidizing agents. Acids and bases.

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapours. Alcohols. Exothermic reaction. 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:

Inhalation LC50:

Irritation: Irritating to eyes, skin, mouth and pharynx.

Corrosivity: No information available.

Sensitization: Prolonged or repeated skin contact may result in allergic eczema.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

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> |
|----------------|---|------------------------|---------------------|-------------------|
| 28064-14-4 | phenol, polymer with formaldehyde, glycidyl ether | 5000 mg/kg, oral, rat | >2000 mg/kg, rabbit | |
| 64742-46-7 | distillates (petroleum), hydrotreated middle | 3160 mg/kg rabbit oral | | |

Additional Information:

No Information

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): No information

IC50 72hr (Algae): No information

LC50 96hr (fish): No information

12.2 Persistence and degradability: No information

12.3 Bioaccumulative potential: No information

12.4 Mobility in soil: No information

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

| <u>CAS-No.</u> | <u>Chemical Name</u> | <u>EC50 48hr</u> | <u>IC50 72hr</u> | <u>LC50 96hr</u> |
|----------------|---|------------------|------------------|------------------|
| 28064-14-4 | phenol, polymer with formaldehyde, glycidyl ether | No information | No information | |
| 64742-46-7 | distillates (petroleum), hydrotreated middle | No information | No information | |

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

| | |
|---|---|
| 14.1 UN number | UN3082 |
| 14.2 UN proper shipping name | Environmentally Hazardous Substance, Liquid, N.O.S. |
| Technical name | Epoxy Phenol Novolac Resin |
| 14.3 Transport hazard class(es) | 9 |
| Subsidiary shipping hazard | N/A |
| 14.4 Packing group | III |
| 14.5 Environmental hazards | Yes |
| 14.6 Special precautions for user | Not applicable |
| EmS-No.: | |
| 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code | Not applicable |

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 Health Hazard

Sara Section 313:

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

| <u>Chemical Name</u> | <u>CAS-No.</u> |
|----------------------|----------------|
| xylene | 1330-20-7 |
| ethylbenzene | 100-41-4 |
| methanol | 67-56-1 |

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:

No TSCA 12(b) components exist in this product

U.S. Clean Air Act

EPA Coating Category:

EPA VOC Content Limit (g/l): Not determined

Product VOC Content (g/l)

Thinning Recommendations:

Application Recommendations:

* As per the federal EPA definition for coating categories in 40 CFR 59.401.

** Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.

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> |
|----------------------|----------------|
|----------------------|----------------|

No Chemical Name Found

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> |
|----------------------|----------------|
|----------------------|----------------|

No Chemical Name Found

California Proposition 65:

Warning: The following ingredients present in the product are known to the State of California to cause cancer:

No Proposition 65 Carcinogens exist in this product

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

No Proposition 65 Reproductive Toxins exist in this product

International Regulations: As follows -

* Canadian DSL:

All chemical ingredients included on inventory or exempt.

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

| | |
|------|--|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H350 | May cause cancer. |
| H411 | Toxic to aquatic life with long lasting effects. |

Reasons for revision

This is a new Safety Data Sheet (SDS).

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark
 ESIS (The European Chemical Substances Information System), provided by the European Commission
 Joint Research Centre in Ispra, Italy
 Annex VI of the EU Council Directive 67/548/EEC
 Council Directive 67/548/EEC - Annex I or EU Council Directive 1999/45/EC
 European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of
 substances and mixtures (CLP Regulation)
 EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes"

Acronym & Abbreviation Key:

| | |
|-------------------|---|
| CLP | Classification, Labeling & Packaging Regulation |
| EC | European Commission |
| EU | European Union |
| US | United States |
| CAS | Chemical Abstract Service |
| EINECS | European Inventory of Existing Chemical Substances |
| REACH | Registration, Evaluation, Authorization of Chemicals Regulation |
| GHS | Globally Harmonized System of Classification and Labeling of Chemicals |
| LTEL | Long term exposure limit |
| STEL | Short term exposure limit |
| OEL | Occupational exposure limit |
| ppm | Parts per million |
| mg/m ³ | Milligrams per cubic meter |
| TLV | Threshold Limit Value |
| ACGIH | American Conference of Governmental Industrial Hygienists |
| OSHA | Occupational Safety & Health Administration |
| PEL | Permissible Exposure Limits |
| VOC | Volatile organic compounds |
| g/l | Grams per liter |
| mg/kg | Milligrams per kilogram |
| N/A | Not applicable |
| LD50 | Lethal dose at 50% |
| LC50 | Lethal concentration at 50% |
| EC50 | Half maximal effective concentration |
| IC50 | Half maximal inhibitory concentration |
| PBT | Persistent bioaccumulative toxic chemical |
| vPvB | Very persistent and very bioaccumulative |
| EEC | European Economic Community |
| ADR | International Transport of Dangerous Goods by Road |
| RID | International Transport of Dangerous Goods by Rail |
| UN | United Nations |
| IMDG | International Maritime Dangerous Goods Code |
| IATA | International Air Transport Association |
| MARPOL | International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 |
| IBC | International Bulk Container |

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions

and recommendations are not followed.



Safety Data Sheet

prepared to UN GHS Revision 3

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

- 1.1 Product Identifier 215-SKN-B-1GAL Revision Date: 04/08/2015
Product Name: Flowcoat SKN Hardener B 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.
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer: Flowcrete North America, Inc.
616 Spring Hill Drive, Suite 100
Spring, TX 77386
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- Datasheet Produced by: Anderson, Paul - americas@flowcrete.com
- 1.4 Emergency telephone number: CHEMTREC +1 703 5273887 (Outside US)

2. Hazard Identification

- 2.1 Classification of the substance or mixture
- Acute Toxicity, Inhalation, category 4
Hazardous to the aquatic environment, Chronic, category 2
STOT, repeated exposure, 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

benzyl alcohol, 4,4'-methylenebicyclohexanamine

HAZARD STATEMENTS

| | | |
|---|--------|--|
| Acute Toxicity, Inhalation, category 4 | H332 | Harmful if inhaled. |
| Hazardous to the aquatic environment, Chronic, category 2 | H411 | Toxic to aquatic life with long lasting effects. |
| STOT, repeated exposure, category 2 | H373 | May cause damage to organs through prolonged or repeated exposure. |
| Skin Corrosion, category 1 | H314-1 | Causes severe skin burns and eye damage. |
| Skin Sensitizer, category 1 | H317 | May cause an allergic skin reaction. |

PRECAUTION PHRASES

| | |
|--------------|--|
| 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. |
| P302+352 | IF ON SKIN: Wash with plenty of soap and water. |
| P303+361+353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304+340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P314 | Get medical advice/attention if you feel unwell. |
| P333+313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P391 | Collect spillage. |

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

| <u>CAS-No.</u> | <u>Chemical Name</u> | <u>%</u> |
|----------------|---------------------------------|----------|
| 100-51-6 | benzyl alcohol | 25-50 |
| 1761-71-3 | 4,4'-methylenebicyclohexanamine | 25-50 |

| <u>CAS-No.</u> | <u>GHS Symbols</u> | <u>GHS Hazard Statements</u> | <u>M-Factors</u> |
|----------------|-------------------------|------------------------------|------------------|
| 1761-71-3 | GHS05-GHS07-GHS08-GHS09 | H302-314-317-373-411 | 0 |
| 100-51-6 | GHS07 | H302-319-332 | 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

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

AFTER INHALATION: Move to fresh air. Consult a physician after significant exposure.

AFTER SKIN CONTACT: Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

AFTER EYE CONTACT: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses.

AFTER INGESTION: Gently wipe or rinse the inside of the mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Self protection of the first aider:

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe burns. Harmful in contact with skin and if swallowed. Irritating to eyes and respiratory system.

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

FOR SAFETY REASONS NOT TO BE USED: Alcohol, Alcohol based solutions, any other media not listed above.

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. High volume water jet. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use 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

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

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: Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Do not breathe vapours or spray mist.

PROTECTION AND HYGIENE MEASURES: 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: Direct sources of heat

STORAGE CONDITIONS: Store in original container. Keep locked up or in an area accessible only to qualified or authorised persons. 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>%</u> | <u>OSHA PEL</u> | <u>Company TLV</u> |
|---------------------------------|----------|-----------------|--------------------|
| benzyl alcohol | 25-50 | | |
| 4,4'-methylenebicyclohexanamine | 25-50 | | |

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

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: Respirator with filter for organic vapor.

EYE PROTECTION: Safety glasses.

HAND PROTECTION: Rubber or plastic gloves. Long sleeved clothing. Remove and wash contaminated clothing before re-use. Rubber or plastic apron.

OTHER PROTECTIVE EQUIPMENT: No Information

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: | Light yellow - clear |
| Physical State | Liquid |
| Odor | Amine like |
| Odor threshold | Not determined |
| pH | 11-12 |
| Melting point /freezing point (°C) | Not determined |
| Boiling point/range (°C) | |

| | |
|--|----------------------------|
| | N.D. - N.D. |
| Flash Point (°C) | 999 |
| Evaporation rate | Not determined |
| Flammability (solid, gas) | Not determined |
| Upper/lower flammability or explosive limits | 999 - 0 |
| Vapour Pressure | Not determined |
| Vapour density | ca. 1.05 g/cm ³ |
| Relative density | Not determined |
| Solubility in /Miscibility with water | Limited |
| Partition coefficient: n-octanol/water | Not determined |
| Auto-ignition temperature (°C) | Not determined |
| Decomposition temperature (°C) | Not determined |
| Viscosity | Not determined |
| Explosive properties | N/A |
| Oxidising properties | Not determined |
| 9.2 Other information | |
| VOC Content g/l: | 12 |
| Specific Gravity (g/cm ³) | 0.120 |

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 may occur.

10.4 Conditions to avoid

Direct sources of heat

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:

Inhalation LC50:

Irritation: No information available.

Corrosivity: Causes burns. Dehydrating on skin. Eye contact may cause irreversible damage.

Sensitization: Prolonged or repeated skin contact may result in allergic eczema.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

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> |
|----------------|---------------------------------|----------------------|--------------------|---------------------------------|
| 1761-71-3 | 4,4'-methylenebicyclohexanamine | 1200 mg/kg oral, rat | 2110 mg/kg, rat | |
| 100-51-6 | benzyl alcohol | 1230 mg/kg rat, oral | | 1000 ppm /8 hrs rat, inhalation |

Additional Information:

No Information

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): No information

IC50 72hr (Algae): No information

LC50 96hr (fish): No information

12.2 Persistence and degradability: No information

12.3 Bioaccumulative potential: No information

12.4 Mobility in soil: No information

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

| <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 | No information | No information | |
| 1761-71-3 | 4,4'-methylenebicyclohexanamine | No information | No information | |

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: If recycling is not practicable, dispose of in compliance 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, N.O.S. |
| Technical name | Cycloaliphatic Amine |
| 14.3 Transport hazard class(es) | 8 |
| Subsidiary shipping hazard | N/A |
| 14.4 Packing group | PG III |
| 14.5 Environmental hazards | RQ 1001 lbs. |
| 14.6 Special precautions for user | Not applicable |
| EmS-No.: | |
| 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code | Not applicable |

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 Health Hazard

Sara Section 313:

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

No Sara 313 components exist in this product

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:

No TSCA 12(b) components exist in this product

U.S. Clean Air Act

EPA Coating Category:

EPA VOC Content Limit (g/l): Not determined

Product VOC Content (g/l)

Thinning Recommendations:

Application Recommendations:

* As per the federal EPA definition for coating categories in 40 CFR 59.401.

** Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.

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> |
|------------------------|----------------|
| No Chemical Name Found | |

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> |
|------------------------|----------------|
| No Chemical Name Found | |

California Proposition 65:

Warning: The following ingredients present in the product are known to the State of California to cause cancer:

No Proposition 65 Carcinogens exist in this product

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

No Proposition 65 Reproductive Toxins exist in this product

International Regulations: As follows -*** Canadian DSL:**

All chemical ingredients included on inventory or exempt.

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. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |

Reasons for revision

This is a new Safety Data Sheet (SDS).

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark
 ESIS (The European Chemical Substances Information System), provided by the European Commission
 Joint Research Centre in Ispra, Italy
 Annex VI of the EU Council Directive 67/548/EEC
 Council Directive 67/548/EEC - Annex I or EU Council Directive 1999/45/EC
 European Union (EU) Regulation No. 1272/2008 on the classification, labelling and packaging of
 substances and mixtures (CLP Regulation)
 EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes"

Acronym & Abbreviation Key:

| | |
|-------------------|---|
| CLP | Classification, Labeling & Packaging Regulation |
| EC | European Commission |
| EU | European Union |
| US | United States |
| CAS | Chemical Abstract Service |
| EINECS | European Inventory of Existing Chemical Substances |
| REACH | Registration, Evaluation, Authorization of Chemicals Regulation |
| GHS | Globally Harmonized System of Classification and Labeling of Chemicals |
| LTEL | Long term exposure limit |
| STEL | Short term exposure limit |
| OEL | Occupational exposure limit |
| ppm | Parts per million |
| mg/m ³ | Milligrams per cubic meter |
| TLV | Threshold Limit Value |
| ACGIH | American Conference of Governmental Industrial Hygienists |
| OSHA | Occupational Safety & Health Administration |
| PEL | Permissible Exposure Limits |
| VOC | Volatile organic compounds |
| g/l | Grams per liter |
| mg/kg | Milligrams per kilogram |
| N/A | Not applicable |
| LD50 | Lethal dose at 50% |
| LC50 | Lethal concentration at 50% |
| EC50 | Half maximal effective concentration |
| IC50 | Half maximal inhibitory concentration |
| PBT | Persistent bioaccumulative toxic chemical |
| vPvB | Very persistent and very bioaccumulative |
| EEC | European Economic Community |
| ADR | International Transport of Dangerous Goods by Road |
| RID | International Transport of Dangerous Goods by Rail |
| UN | United Nations |
| IMDG | International Maritime Dangerous Goods Code |
| IATA | International Air Transport Association |
| MARPOL | International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 |
| IBC | International Bulk Container |

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general

guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.