

MATERIAL SAFETY DATA SHEET
Powercrete R65/F1 Part-A

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

Product Name POWERCRETE R65/F1 (PART- A)
Product Description Pipe Coating
Manufacturer/Supplier Berry Plastics Corporation, Corrosion Protection Group
Address 13835, Beaumont Highway,
 Houston, Texas – 77049 (U.S.A.)
Phone Number (713) 676-0085 (Monday - Friday 8:00 am to 5:00 pm)
Chemtrec Number (800) 424-9300
Revision Date: April 11, 2011
MSDS Date: March 1, 2007

Material Safety Data Sheet according to OSHA's Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

Emergency Overview
Warning!

Avoid breathing vapor, mist or spray.
 Causes irritation to eyes and skin and respiratory tract.
 May cause skin sensitization.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Routes of Entry

- Eye contact - Skin contact - Inhalation (if aerosolized) - Ingestion

Carcinogenic Status

Considered carcinogenic by IARC (see Section 11).

Target Organs

Skin - Eye - Respiratory System (if aerosolized)

Health Effects - Eyes

Liquid, mist or vapor may cause pain, transient irritation and superficial corneal effects.

Health Effects - Skin

Repeated exposure may cause skin irritation. May cause skin sensitization.

Health Effects - Ingestion

If swallowed, may cause mild irritation to the GI tract.

Health Effects - Inhalation

Prolonged repeated exposure may cause irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS#/Codes	Concentration
Bisphenol A, diglycidyl ether polymer	25068-38-6	30 - 45%
Quartz	14808-60-7	0.1 - 1%
Titanium Dioxide	13463-67-7	0.1 - <1%
Inorganic compounds	Proprietary	50 - 70%

4. FIRST AID MEASURES

Eyes

Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Skin

Immediately flood the skin with large quantities of water for at least 15 minutes, preferably under a shower. Remove contaminated clothing and continue washing. Contaminated clothing should be washed or dry-cleaned before re-use. Obtain medical attention if blistering occurs or redness persists.

Ingestion

Do not induce vomiting. Have victim drink 1-3 glasses of water to dilute stomach contents. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

Inhalation

Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

5. FIRE - FIGHTING MEASURES

Extinguishing Media

Use foam, dry chemical or carbon dioxide.

Unusual Fire and Explosion Hazards

Decomposition and combustion products may be toxic.

Protective Equipment for Fire-Fighting

Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal. Wear appropriate protective clothing. Prevent the material from entering drains or watercourses. Notify authorities if spill has entered watercourse or sewer or has contaminated soil or vegetation. Dispose in accordance with federal, state and local regulations.

7. HANDLING AND STORAGE

Use in well ventilated area. Use local exhaust ventilation. Use appropriate protective clothing. If this product is sprayed, aerosolized or applied to hot surfaces, wear appropriate protective clothing to prevent contact with skin, eyes and respiratory system. Consider the use of respiratory protection, especially during application to hot surfaces. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use.

Storage area should be: - cool - dry - well ventilated - away from incompatible materials - out of direct sunlight - away from sources of ignition

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards

Exposure limits are listed below, if they exist.

Titanium Dioxide

ACGIH TLV: 10 mg/m³ TWA

OSHA PEL: 15 mg/m³ TWA (Total dust)

Bisphenol A, epichlorohydrin polymer

None established.

Quartz

ACGIH TLV for Quartz (silica-crystalline) is 0.025 mg/m³ measured as respirable fraction of the aerosol

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Control Measures

Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

Respiratory Protection

Wear respiratory protection if there is a risk of exposure to high vapor concentrations, aerosols or if applied to hot surfaces. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

Hand Protection

Butyl gloves are recommended.

Eye Protection

Chemical goggles or safety glasses with side shields

Body Protection

If there is danger of splashing, wear: - overall or apron

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Viscous Liquid
Color	Off white
Odor	Slight
pH	Not applicable
Specific Gravity	1.92 +/- 0.03
Boiling Range/Point (°C/F)	>260°C/500°F
Melting Point (°C/F)	Not determined
Flash Point (PMCC) (°C/F)	Approx. 251°C/484°F (Pensky-Martens)
Vapor Pressure	Approx. 0.03 mbar at 77°C/171°F
Evaporation Rate	Not determined
Solubility in Water	Negligible
Vapor Density (Air = 1)	Not Applicable
Viscosity (cSt)	Not determined
VOC (g/l)	Not determined

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions.

Conditions to Avoid

- Heat, sparks, flames - contact with incompatibles

Materials to Avoid

Strong oxidizing agents

Hazardous Polymerization

Will not occur.

Hazardous Decomposition Products

Oxides of carbon - aldehydes

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Bisphenol A, diglycidyl ether polymer: Oral LD50(rat) >5000 mg/kg
Dermal LD50(rabbit)>6000 mg/kg

Titanium Dioxide: Oral LD50(rat) >10,000 mg/kg
Dermal LD50(rabbit)>10,000 mg/kg
Inhalation LC50 (rat)>6.8 mg/l

Specific Target Organ Systemic Toxicity (single and repeat)

Bisphenol A, diglycidyl ether polymer: Subchronic studies (dermal, rat) showed no apparent system toxicity with the exception of decreased body weight and body weight gain.

Serious Eye damage/Eye Irritation

Bisphenol A, diglycidyl ether polymer: Slight irritation (rabbit)

Skin Corrosion/Irritation

Bisphenol A, diglycidyl ether polymer: Moderate irritation (rabbit)

Respiratory or Skin Sensitization

Bisphenol A, diglycidyl ether polymer: Moderate sensitizer

Carcinogenicity

Crystalline silica (quartz): IARC Overall Evaluation is 1 (carcinogenic to humans).

Titanium Dioxide: IARC Overall Evaluation is 2B (Possibly carcinogenic to humans) IARC conclusions are based on evidence showing that high concentrations of pigment-grade (powdered) and ultrafine titanium dioxide dust caused respiratory tract cancer in rats exposed by inhalation and intratracheal instillation. Human studies conducted so far do not suggest an association between occupational exposure to titanium dioxide and an increased risk for cancer.

Germ Cell Mutagenicity

Bisphenol A, diglycidyl ether polymer: In vitro tests showed mutagenic effects which were not observed with in vivo tests.

Toxicity to Reproduction

Bisphenol A, diglycidyl ether polymer: There were no treatment related histologic changes noted nor effects on reproductive performance in rat at any oral dose tested. No adverse effects on embryonic or fetal development were observed in rabbits after dermal exposure.

12. ECOLOGICAL INFORMATION

Mobility

No relevant studies identified.

Persistence/Degradability

No relevant studies identified.

Bio-accumulation

No relevant studies identified.

Ecotoxicity

Bisphenol A, epichlorohydrin polymer: LC50 96hr 1.5 mg/l Rainbow Trout
EC50 24hr 3.6 mg/l Daphnia

13. DISPOSAL

For disposal of residual product, mix by weight 100 parts Powercrete R65/F1 - Part A with 36 parts Powercrete R65/F1 - Part B or mix by volume 2 parts A to 1 part B. Allow mix to solidify in well ventilated area or outdoors. Dispose of in accordance with all applicable local and national regulations. Labels should not be removed from containers until they have been cleaned. Empty containers may contain hazardous residues. Dispose of containers with care.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data	Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A epoxy resin) , (9), UN 3082, III
UN Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A epoxy resin)
UN Class	9
UN Number	UN3082
UN Packaging Group	III
Classification for AIR Transportation (IATA)	Consult current IATA Regulations prior to shipping by air.

15. REGULATORY INFORMATION

US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS

TSCA Listing

All ingredients have been verified for inclusion on the EPA Toxic Substance Control Act Chemical Substance Inventory.

EINECS Listing

All ingredients in this product have been verified for inclusion on the European Inventory of Existing Commercial Chemical Substances (EINECS) or specifically exempted.

DSL (Canadian) Listing

All ingredients in this product have been verified for inclusion on the Domestic Substance List (DSL).

California Proposition 65

This product contains materials which the State of California has found to cause cancer, birth defects or other reproductive harm: Quartz (14808-60-7)

WHMIS Classification

D.2 A,.D.2.B

This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

SARA Title III Sect. 311/312 Categorization

Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA Title III Sect. 313

This product does not contain any chemicals that are listed in Section 313 at or above de minimis concentrations.

16. OTHER INFORMATION

NFPA Ratings

NFPA Code for Flammability - 1
NFPA Code for Health - 2
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards - None

HMIS Ratings

HMIS Code for Flammability - 1
HMIS Code for Health - 2*
HMIS Code for Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations

N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists

16. OTHER INFORMATION

OSHA: Occupational Safety and Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit

NTP: National Toxicology Program

IARC: International Agency for Research on Cancer

R: Risk

S: Safety

For further information email: msdstechnical@berryplastics.com

Prepared By: EnviroNet LLC.

The information and recommendations presented in this MSDS are based on sources believed to be accurate. Berry Plastics Corporation, Tapes and Coatings Division assumes no liability for the accuracy or completeness of this information. It is the user's responsibility to determine the suitability of the **material** for their particular purposes. In particular, we make **NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED**, with respect to such information, and we assume no liability resulting from its use. Users should ensure that any use **or disposal** of the material is in accordance with applicable Federal, State, and local laws and regulations.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name POWERCRETE R65/F1 (PART-B)
 Manufacturer/Supplier Berry Plastics Corporation, Corrosion Protection Group
 Address 13835, Beaumont Highway,
 Houston, Texas – 77049 (U.S.A.)
 Phone Number (713) 676-0085 (Monday - Friday 8:00 am to 5:00 pm)
 Chemtrec Number (800) 424-9300
 Revision Date: October 09, 2009
 MSDS Date: June 16, 2008
 This MSDS has been compiled in accordance with - EC Directive 91/155/EC - OSHA's Hazcom Standard (29 CFR 1910.1200)

2. COMPOSITION/INFORMATION ON THE COMPONENTS

Component Name	CAS#/Codes	Concentration	R Phrases	Classification
Alkyl Amine	Proprietary	20-65%	R20/21/22 R34,R43,R68	C
Inorganic compounds	Proprietary	20-55%	None	None
Nitrate Compound	Proprietary	<3%	None	None
Ethanol	64-17-5 200-578-6	<3%	R11	F
Dye Compound	Proprietary	<3%	None	None

3. HAZARD IDENTIFICATION

EU Main Hazards
 R20/21/22 Harmful by inhalation, in contact with skin and if swallowed
 R34 Causes burns.
 R43 May cause sensitization by skin contact.
 R68 - Possible risk of irreversible effects.

Routes of Entry

- Eye contact - Ingestion - Skin contact - Inhalation - Absorption

Carcinogenic Status

Not considered carcinogenic by NTP, IARC, and OSHA.

Target Organs

Skin -- Eye -- Respiratory System - Nervous System - Liver

Health Effects - Eyes

Contact may cause burning, redness and severe damage including blindness. Vapors may be irritating.

Health Effects - Skin

Contact may cause severe irritation, dermatitis and chemical burns. May cause allergic skin reaction. Allergies, eczema and skin conditions may be aggravated by exposure to this product.

3. HAZARD IDENTIFICATION

Health Effects - Ingestion

Swallowing may cause severe burns and permanent damage to the mouth, throat and stomach. May be moderately toxic if swallowed. May cause central nervous system effects such as headache, nausea dizziness, and confusion and breathing difficulties. Chronic exposure can result in liver damage.

Health Effects - Inhalation

Inhalation of vapors may be severely irritating and may cause chemical burns to the respiratory tract. Repeated exposure may cause lung damage. May be toxic if inhaled. May cause central nervous system effects such as headache, nausea, dizziness, and confusion and breathing difficulties.

4. FIRST AID MEASURES

Eyes

Immediately flood the eye with plenty of water for at least 20 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Skin

Immediately flood the skin with large quantities of water for at least 20 minutes, preferably under a shower. Remove contaminated clothing and continue washing. Contaminated clothing should be washed or dry-cleaned before re-use. Obtain medical attention if blistering occurs or redness persists.

Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Have victim drink 1-3 glasses of water to dilute stomach contents. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

Inhalation

Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Use foam, dry chemical or carbon dioxide.

Unusual Fire and Explosion Hazards

Decomposition and combustion products may be toxic.

Protective Equipment for Fire-Fighting

Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal. Wear appropriate protective clothing. Prevent the material from entering drains or watercourses. Notify authorities if spill has entered watercourse or sewer or has contaminated soil or vegetation. Dispose in accordance with federal, state and local regulations.

7. HANDLING AND STORAGE

Use in well ventilated area. Use local exhaust ventilation. Use appropriate protective clothing. If this product is sprayed, aerosolized or applied to hot surfaces, wear appropriate protective clothing to prevent contact with skin, eyes and respiratory system. Consider the use of respiratory protection, especially during application to hot surfaces as volatile organic chemicals may be released. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use.

Storage area should be: - cool - dry - well ventilated - away from incompatible materials - out of direct sunlight - away from sources of ignition

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards

Exposure limits are listed below, if they exist

Alkyl Amine

None established.

Ethanol

ACGIH: TLV 1000 ppm (1880 mg/m³)) 8 hr TWA

OSHA :PEL 1000 ppm (1900 mg/m³)) 8 hr TWA

Engineering Control Measures

Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

Respiratory Protection

Wear respiratory protection if there is a risk of exposure to high vapor concentrations, aerosols or if applied to hot surfaces. A NIOSH approved full face respirator may be worn. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

Hand Protection

Butyl gloves are recommended.

Eye Protection

Chemical goggles or safety glasses with side shields. Consider the use of a face shield if splashing is possible.

Body Protection

If there is danger of splashing, wear: - overall or apron

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Viscous liquid
Color	Green
Odor	Amine odor
pH	Alkaline
Specific Gravity	1.38 +/-0.03
Boiling Range/Point (°C/F)	Not determined
Melting Point (°C/F)	Not determined
Flash Point (PMCC) (°C/F)	> 200/392
Vapor Pressure(mm HG)at (°C/F)	< 1 mm Hg at 20/68

9. PHYSICAL AND CHEMICAL PROPERTIES

Evaporation Rate	Not determined
Solubility in Water	Slightly miscible
Vapor Density (Air = 1)	Heavier than air.
VOC (g/l)	Not determined

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions.

Conditions to Avoid

- Heat, sparks, flames - contact with incompatible chemicals

Materials to Avoid

- strong oxidizing agents - acids

Hazardous Polymerization

Will not occur.

Hazardous Decomposition Products

- oxides of carbon - aldehydes - nitrogen oxides - organic compounds

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Alkyl amine: Oral LD50(rat): 400 <LD50 ≤ 2000 mg/kg

Dermal LD50: >2000 mg/kg

Inhalation LC50: 1 <LC50 ≤ 5 mg/l

Chronic Toxicity/Carcinogenicity

Not expected to cause long term adverse health effects.

Genotoxicity

This product is not expected to cause any mutagenic effects.

Reproductive/Developmental Toxicity

This product is not expected to cause adverse reproductive effects.

12. ECOLOGICAL INFORMATION

Mobility

No relevant studies identified.

Persistence/Degradability

Alkyl amine: Expected to be not readily biodegradable.

Bio-accumulation

Alkyl amine: Not expected to bioaccumulate significantly.

Ecotoxicity

Alkyl amine: Toxicity to fish: 10 <LC/EC/IC 50 ≤ 100 mg/l

Toxicity to algae: 10 <LC/EC/IC 50 ≤ 100 mg/l

Acute toxicity- in vertebrates: 10 <LC/EC/IC 50 ≤ 100 mg/l

13. DISPOSAL

For disposal of residual product, mix (by volume) 2 parts Powercrete R65/F1 Part A with 1 part Powercrete R65/F1 Part B and allow to solidify in well ventilated area. Dispose of in accordance with all applicable local and national regulations. Labels should not be removed from containers until they have been cleaned. Empty containers may contain hazardous residues. Dispose of containers with care.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data	Polyamines, liquid, corrosive, n.o.s. (polyalkyl amine) (8) UN2735, PGIII
UN Proper Shipping Name	Polyamines, liquid, corrosive, n.o.s. (polyalkyl amine)
UN Class	8 (corrosive)
UN Number	UN2735
UN Packaging Group	III
Classification for AIR Transportation (IATA)	Consult current IATA Regulations prior to shipping by air.

15. REGULATORY INFORMATION

EU Label Information

Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments.

EU Hazard Symbol and Indication of Danger C

- Corrosive

R phrases

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed

R34 Causes burns.

R43 May cause sensitization by skin contact.

R68 - Possible risk of irreversible effects.

S phrases

S23 Do not breathe vapour.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/38 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice.

US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS

TSCA Listing

All ingredients have been verified for inclusion on the EPA Toxic Substance Control Act Chemical Substance Inventory.

EINECS Listing

All ingredients in this product have not been verified for inclusion on the European Inventory of Existing Commercial Chemical Substances (EINECS).

DSL (Canadian) Listing

All ingredients in this product have not been verified for inclusion on the Domestic Substance List (DSL)

15. REGULATORY INFORMATION

California Proposition 65

This product contains materials which the State of California has found to cause cancer, birth defects or other reproductive harm - Crystalline silica (14808-60-7) 0.003%

SARA Title III Sect. 302 (EHS)

The following chemicals have reportable quantities : None

SARA Title III Sect. 304

This product does not contain any chemicals subject to SARA Title III Section 304.

SARA Title III Sect. 311/312 Categorization

Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA Title III Sect. 313

This product contains a chemical that is listed in Section 313 at or above de minimis concentrations. The following listed chemicals are present: None

16. OTHER INFORMATION

NFPA Ratings

NFPA Code for Flammability - 1

NFPA Code for Health - 3

NFPA Code for Reactivity - 0

NFPA Code for Special Hazards - None

HMIS Ratings

HMIS Code for Flammability - 1

HMIS Code for Health - 3

HMIS Code for Reactivity - 0

HMIS Code for Personal Protection - See Section 8

Abbreviations

N/A: Denotes no applicable information found or available

CAS#: Chemical Abstracts Service Number

ACGIH: American Conference of Governmental Industrial Hygienists

OSHA: Occupational Safety and Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit

NTP: National Toxicology Program

IARC: International Agency for Research on Cancer

R: Risk

R11: Highly Flammable

F: Highly Flammable

S: Safety

16. OTHER INFORMATION

For further Information email: msdstechnical@berryplastics.com

Prepared By: EnviroNet LLC.

The information and recommendations presented in this MSDS are based on sources believed to be accurate. Berry Plastics assumes no liability for the accuracy or completeness of this information. It is the user's responsibility to determine the suitability of the material for their particular purposes. In particular, we make NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, with respect to such information, and we assume no liability resulting from its use. Users should ensure that any use or disposal of the material is in accordance with applicable Federal, State, and local laws and regulations.
