

Dur-A-Glaze #4 WB Primer Hardener SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: Dur-A-Glaze #4 WB Primer Hardener

Recommended use: Floor Surfacing

Manufacturer Name: Dur-A-Flex, Inc.
95 Goodwin Street
East Hartford, CT 06108

Telephone number: 860-528-9838

Emergency phone number: 1-800- 424-9300 (CHEMTREC)

Date of Preparation: January 31, 2014

2. HAZARD(S) IDENTIFICATION

This product is one part of a 2 part product. Read and understand the hazard information on the SDS for Dur-A-Glaze #4 Resin before using this product.

Classification:

Physical	Health
Not Hazardous	Eye Damage Category 1

Labeling:

Danger!



Hazard statement(s)

Causes serious eye damage.

Precautionary statement(s)

Wear eye protection and face protection.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Polyamine Curative	Proprietary	40-60%

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Remove victim to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get medical attention.

Skin contact: Remove contaminated clothing. Wash with soap and water. If irritation develops, get medical attention.

Eye contact: Immediately flush with large quantities of water for 15 minutes, holding the eyelids apart. Get immediate medical attention. .

Ingestion: If conscious, rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Get medical attention.

Most important symptoms/effects, acute and delayed: Causes severe irritation or burns. Skin contact may cause skin irritation. Inhalation of vapors or mists may cause mucous membrane and upper respiratory tract irritation.

Indication of immediate medical attention and special treatment, if necessary: If eye contact occurs, get immediate medical attention.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use water spray, carbon dioxide, dry chemical or dry chemical to extinguish fire.

Specific hazards arising from the chemical: Combustion may produce carbon and nitrogen oxides and aldehydes.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing as described in Section 8.

Environmental precautions: Avoid release to the environment. Report releases as required by local, state and federal authorities.

Methods and materials for containment and cleaning up: Contain and collect with an inert absorbent. Place into an appropriate container for disposal. Clean spill area with soap and water.

7. HANDLING AND STORAGE

Precautions for safe handling: Prevent contact with eyes. Avoid contact with skin and clothing. Avoid breathing vapors or mists. Wash thoroughly after handling and before eating, drinking, smoking or using the toilet. Use with adequate ventilation.

Conditions for safe storage, including any incompatibilities: Store in a closed in a cool, dry and well-ventilated area. Protect from physical damage. Store away from oxidizing agents, acids and bases.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Polyamine Curative	None Established
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Appropriate engineering controls: Use with adequate general or local exhaust ventilation to minimize exposures.

Personal Protective Equipment:

Respiratory protection: If the exposures are excessive, a NIOSH approved respirator with an organic vapor cartridge and a dust/mist prefilter or supplied air respirator is recommended. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin protection: Wear impervious gloves such as butyl rubber.

Eye protection: Chemical safety goggles and faceshield recommended.

Other: Impervious clothing as needed to prevent contact. An eye wash should be available in the immediate work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Pale yellow viscous liquid

Odor: Mild ester-like odor

Odor threshold: Not available	pH: Not available
Melting Point/Freezing Point: ~32°F	Boiling Point: >400°F
Flash point: >212°F / >100°C	Evaporation rate: Not available
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: Not applicable	UEL: Not applicable
Vapor pressure: Not available	Vapor density: Not available
Relative density: 1.07	Solubility(is): Soluble in water
Partition coefficient: n-Octanol/water: Not applicable	Auto-ignition temperature: Not available
Decomposition temperature: Not available	Viscosity: Not available

10. STABILITY AND REACTIVITY

Reactivity: None known.

Chemical stability: Stable.

Possibility of hazardous reactions: May polymerize with epoxy resin.

Conditions to avoid: Avoid excessive heat.

Incompatible materials: Avoid contact with oxidizing agents, acids and bases.

Hazardous decomposition products: Thermal decomposition may produce carbon and nitrogen oxides and aldehydes.

11. TOXICOLOGICAL INFORMATION

Inhalation: Excessive inhalation of mists may cause mucous membrane and upper respiratory tract irritation.

Ingestion: Swallowing may cause gastrointestinal irritation, nausea and diarrhea.

Skin contact: May cause skin irritation with redness, itching and pain.

Eye contact: May cause severe irritation or burns with redness, tearing, stinging and swelling. Permanent damage may occur.

Chronic effects from short- and long-term exposure: None known.

Reproductive Toxicity: This product is not expected to cause adverse reproductive or developmental effects.

Sensitization: None of the components have been shown to cause sensitization in animals or humans.

Mutagenicity: This product is not expected to cause mutagenic activity.

Carcinogenicity: None of the components are listed as a carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values:

Polyamine Curative: No toxicity data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Polyamine Curative: No data available.

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated	None	None	None
TDG	None	Not Regulated	None	None	None
IMDG	None	Not Regulated	None	None	None
IATA	None	Not Regulated	None	None	None

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known

15. REGULATORY INFORMATION

CERCLA: This product is not subject to CERCLA reporting requirements as it is sold. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health

SARA 313 Information: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

California Proposition 65

This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects): ethylene oxide 75-21-8 <5 ppm (cancer, female reproductive toxicity, male reproductive toxicity, developmental); 1,4-dioxane 123-91-1 <6 ppm (cancer); formaldehyde 50-00-0 <5 ppm (cancer); acetaldehyde 75-07-0 <5 ppm (cancer)

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

Canadian CEPA: All of the ingredients in this product are listed on the Canadian DSL.

Canadian WHMIS Classification: Class E (Corrosive)

This product has been classified under the CPR and this MSDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Rating: Health = 3 Flammability = 1 Instability = 0
HMIS Rating: Health = 3 Flammability = 1 Physical Hazard = 0

SDS Revision History: Converted to GHS format. All sections revised.

Date of preparation: January 31, 2014

Date of last revision: New SDS

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND USE.

Dur-A-Glaze #4 Resin SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: Dur-A-Glaze #4 Resin

Recommended use: Floor Surfacing

Manufacturer Name: Dur-A-Flex, Inc.
95 Goodwin Street
East Hartford, CT 06108

Telephone number: 860-528-9838

Emergency phone number: 1-800- 424-9300 (CHEMTREC)

Date of Preparation: January 31, 2014

2. HAZARD(S) IDENTIFICATION

This product is one part of a 2 part product. Read and understand the hazard information on the SDS for Hardener before using this product.

Classification:

Physical	Health
Not Hazardous	Skin Irritation Category 2 Eye Irritation Category 2A Skin Sensitization Category 1

Labeling:

Warning!



Hazard statement(s)

Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.

Precautionary statement(s)

Avoid breathing mist, vapors or spray.
Wash thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves, eye protection and face protection.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue

rinsing.
If eye irritation persists: Get medical attention.
Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Diglycidyl Ether Bisphenol A Epoxy Resin	25068-38-6	50-90%
Aliphatic Glycidyl Ether Diluent (Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.)	68609-97-2	5-25%

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Remove victim to fresh air. If irritation occurs or breathing is difficult, get medical attention.

Skin contact: Remove contaminated clothing. Wash with soap and water. If irritation or rash develops, get medical attention.

Eye contact: Immediately flush with large quantities of water for 15 minutes, holding the eyelids apart. Get medical attention if irritation persists.

Ingestion: If conscious, rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Get medical attention.

Most important symptoms/effects, acute and delayed: May cause eye and skin irritation. May cause allergic skin reaction.

Indication of immediate medical attention and special treatment, if necessary: None expected under normal conditions of use. If allergic skin reaction occurs, discontinue use and get medical attention.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use media appropriate for the surrounding fire.

Specific hazards arising from the chemical: Combustion may produce carbon oxides.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing as described in Section 8.

Environmental precautions: Avoid release to the environment. Report releases as required by local, state and federal authorities.

Methods and materials for containment and cleaning up: Contain and collect with an inert absorbent. Place into an appropriate container for disposal. Caution slip hazard. Wash spill site with soap and water.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Wash thoroughly after handling and before eating, drinking, smoking or using the toilet. Use with adequate ventilation.

Conditions for safe storage, including any incompatibilities: Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from physical damage. Store away from oxidizing agents, acids and bases.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Diglycidyl Ether Bisphenol A Epoxy Resin	None Established
Aliphatic Glycidyl Ether Diluent (Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.)	None Established

Appropriate engineering controls: Use with adequate general or local exhaust ventilation to minimize exposures.

Personal Protective Equipment:

Respiratory protection: If the exposures are excessive, a NIOSH approved respirator with an organic vapor cartridge and a dust/mist prefilter or supplied air respirator is recommended. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin protection: Wear impervious gloves such as butyl rubber.

Eye protection: Chemical safety goggles recommended.

Other: Impervious clothing as needed to prevent contact. An eye wash and safety shower should be available in the immediate work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Viscous liquid

Odor: Mild characteristic odor

Odor threshold: Not available	pH: Not available
Melting Point/Freezing Point: - Not available	Boiling Point: Not available
Flash point: 485 °F / 251.6°C	Evaporation rate: Not available
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: Not available	UEL: Not available
Vapor pressure: Not available	Vapor density: Not available
Relative density: >1	Solubility(is): Insoluble
Partition coefficient: n-Octanol/water: Not applicable	Auto-ignition temperature: Not available
Decomposition temperature: Not available	Viscosity: Not available

10. STABILITY AND REACTIVITY

Reactivity: None known.

Chemical stability: Stable.

Possibility of hazardous reactions: May polymerize with amines, mercaptans and Lewis acids.

Conditions to avoid: Avoid excessive heat.

Incompatible materials: Avoid contact with oxidizing agents, acids and bases.

Hazardous decomposition products: Thermal decomposition may produce carbon oxides.

11. TOXICOLOGICAL INFORMATION

Inhalation: Excessive inhalation of mists may cause mucous membrane and upper respiratory tract irritation.

Ingestion: Swallowing may cause gastrointestinal irritation, nausea and diarrhea.

Skin contact: May cause skin irritation with redness, itching and pain. May cause allergic skin reaction (sensitization).

Eye contact: May cause irritation with redness, tearing, stinging and swelling.

Chronic effects from short- and long-term exposure: None known.

Reproductive Toxicity: This product is not expected to cause adverse reproductive or developmental effects.

Sensitization: Diglycidyl ether bisphenol A epoxy resin and aliphatic glycidyl ether diluent causes sensitization in laboratory animals.

Mutagenicity: This product is not expected to cause mutagenic activity.

Carcinogenicity: None of the components are listed as a carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values:

Diglycidyl Ether Bisphenol A Epoxy Resin: Oral rat LD50 > 2000 mg/kg; Inhalation rat LC0 – no deaths at saturation; Dermal rabbit LD50 > 2000 mg/kg

Aliphatic Glycidyl Ether Diluent: Oral rat LD50 26.8 g/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Diglycidyl Ether Bisphenol A Epoxy Resin: 96 hr LC50 *Oncorhynchus mykiss* 1.2 mg/L; 48 hr EC50 *daphnia magna* 1.1 mg/L; 72 hr EC50 *Scenedesmus capricornutum* 9.4 mg/L

Aliphatic Glycidyl Ether Diluent: 96 hr LC50 *Oncorhynchus mykiss* > 5000 mg/L; 72 hr IC50

Pseudokirchnerella subcapitata 843.75 mg/L

Persistence and degradability: Diglycidyl ether bisphenol A epoxy resin is not readily biodegradable.

Aliphatic glycidyl ether diluent is readily biodegradable.

Bioaccumulative potential: Diglycidyl ether bisphenol A epoxy resin has a BCF of 31. Aliphatic glycidyl ether diluent has a BCF 160-263.

Mobility in soil: No data available.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated	None	None	None
TDG	None	Not Regulated	None	None	None
IMDG	UN 3082	Environmentally hazardous substances, liquid, n.o.s. (Diglycidyl Ether Bisphenol A Epoxy Resin)	9	PG III	Marine Pollutant
IATA	UN 3082	Environmentally hazardous substances, liquid, n.o.s. (Diglycidyl Ether Bisphenol A Epoxy Resin)	9	PG III	Yes

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known

15. REGULATORY INFORMATION

CERCLA: This product is not subject to CERCLA reporting requirements as it is sold. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health

SARA 313 Information: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

California Proposition 65

This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects): epichlorohydrin 106-89-8 <0.1% (cancer, male reproductive toxicity)

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

Canadian CEPA: All of the ingredients in this product are listed on the Canadian DSL.

Canadian WHMIS Classification: Class D Division 2 Subdivision B (Toxic Material Causing other Toxic Effects)

This product has been classified under the CPR and this MSDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Rating: Health = 2 Flammability = 1 Instability = 0
HMIS Rating: Health = 2 Flammability = 1 Physical Hazard = 0

SDS Revision History: Converted to GHS format. All sections revised.

Date of preparation: January 31, 2014

Date of last revision: New SDS

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND USE.

Dur-A-Gard & Dur-A-Gard w/BioPruf Resin SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: Dur-A-Gard & Dur-A-Gard w/BioPruf Resin

Recommended use: Floor Surfacing

Manufacturer Name: Dur-A-Flex, Inc.
95 Goodwin Street
East Hartford, CT 06108

Telephone number: 860-528-9838

Emergency phone number: 1-800- 424-9300 (CHEMTREC)

Date of Preparation: May 19, 2014

2. HAZARD(S) IDENTIFICATION

This product is one part of a 2 part product. Read and understand the hazard information on the SDS for Dur-A-Gard Hardener before using this product.

Classification:

Physical	Health
Not Hazardous	Skin Irritation Category 2 Eye Irritation Category 2A Skin Sensitization Category 1

Labeling:

Warning!



Hazard statement(s)

Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.

Precautionary statement(s)

Avoid breathing mist, vapors or spray.
Wash thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves, eye protection and face protection.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue

rinsing.
If eye irritation persists: Get medical attention.
Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Diglycidyl Ether Bisphenol A Epoxy Resin	25068-38-6	50-90%
Aliphatic Glycidyl Ether Diluent (Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.)	68609-97-2	5-25%

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Remove victim to fresh air. If irritation occurs or breathing is difficult, get medical attention.

Skin contact: Remove contaminated clothing. Wash with soap and water. If irritation or rash develops, get medical attention.

Eye contact: Immediately flush with large quantities of water for 15 minutes, holding the eyelids apart. Get medical attention if irritation persists.

Ingestion: If conscious, rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Get medical attention.

Most important symptoms/effects, acute and delayed: May cause eye and skin irritation. May cause allergic skin reaction.

Indication of immediate medical attention and special treatment, if necessary: None expected under normal conditions of use. If allergic skin reaction occurs, discontinue use and get medical attention.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use media appropriate for the surrounding fire.

Specific hazards arising from the chemical: Combustion may produce carbon oxides.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing as described in Section 8.

Environmental precautions: Avoid release to the environment. Report releases as required by local, state and federal authorities.

Methods and materials for containment and cleaning up: Contain and collect with an inert absorbent. Place into an appropriate container for disposal. Caution slip hazard. Wash spill site with soap and water.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Wash thoroughly after handling and before eating, drinking, smoking or using the toilet. Use with adequate ventilation.

Conditions for safe storage, including any incompatibilities: Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from physical damage. Store away from oxidizing agents, acids and bases.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Diglycidyl Ether Bisphenol A Epoxy Resin	None Established
Aliphatic Glycidyl Ether Diluent (Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.)	None Established

Appropriate engineering controls: Use with adequate general or local exhaust ventilation to minimize exposures.

Personal Protective Equipment:

Respiratory protection: If the exposures are excessive, a NIOSH approved respirator with an organic vapor cartridge and a dust/mist prefilter or supplied air respirator is recommended. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin protection: Wear impervious gloves such as butyl rubber.

Eye protection: Chemical safety goggles recommended.

Other: Impervious clothing as needed to prevent contact. An eye wash and safety shower should be available in the immediate work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Viscous liquid

Odor: Mild characteristic odor

Odor threshold: Not available	pH: Not available
Melting Point/Freezing Point: - Not available	Boiling Point: Not available
Flash point: 485 °F / 251.6°C	Evaporation rate: Not available
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: Not available	UEL: Not available
Vapor pressure: Not available	Vapor density: Not available
Relative density: >1	Solubility(is): Insoluble
Partition coefficient: n-Octanol/water: Not applicable	Auto-ignition temperature: Not available
Decomposition temperature: Not available	Viscosity: Not available

10. STABILITY AND REACTIVITY

Reactivity: None known.

Chemical stability: Stable.

Possibility of hazardous reactions: May polymerize with amines, mercaptans and Lewis acids.

Conditions to avoid: Avoid excessive heat.

Incompatible materials: Avoid contact with oxidizing agents, acids and bases.

Hazardous decomposition products: Thermal decomposition may produce carbon oxides.

11. TOXICOLOGICAL INFORMATION

Inhalation: Excessive inhalation of mists may cause mucous membrane and upper respiratory tract irritation.

Ingestion: Swallowing may cause gastrointestinal irritation, nausea and diarrhea.

Skin contact: May cause skin irritation with redness, itching and pain. May cause allergic skin reaction (sensitization).

Eye contact: May cause irritation with redness, tearing, stinging and swelling.

Chronic effects from short- and long-term exposure: None known.

Reproductive Toxicity: This product is not expected to cause adverse reproductive or developmental effects.

Sensitization: Diglycidyl ether bisphenol A epoxy resin and aliphatic glycidyl ether diluent causes sensitization in laboratory animals.

Mutagenicity: This product is not expected to cause mutagenic activity.

Carcinogenicity: None of the components are listed as a carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values:

Diglycidyl Ether Bisphenol A Epoxy Resin: Oral rat LD50 > 2000 mg/kg; Inhalation rat LC0 – no deaths at saturation; Dermal rabbit LD50 > 2000 mg/kg

Aliphatic Glycidyl Ether Diluent: Oral rat LD50 26.8 g/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Diglycidyl Ether Bisphenol A Epoxy Resin: 96 hr LC50 *Oncorhynchus mykiss* 1.2 mg/L; 48 hr EC50 daphnia magna 1.1 mg/L; 72 hr EC50 *Scenedesmus capricornutum* 9.4 mg/L

Aliphatic Glycidyl Ether Diluent: 96 hr LC50 *Oncorhynchus mykiss* > 5000 mg/L; 72 hr IC50

Pseudokirchnerella subcapitata 843.75 mg/L

Persistence and degradability: Diglycidyl ether bisphenol A epoxy resin is not readily biodegradable. Aliphatic glycidyl ether diluent is readily biodegradable.

Bioaccumulative potential: Diglycidyl ether bisphenol A epoxy resin has a BCF of 31. Aliphatic glycidyl ether diluent has a BCF 160-263.

Mobility in soil: No data available.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated	None	None	None
TDG	None	Not Regulated	None	None	None
IMDG	UN 3082	Environmentally hazardous substances, liquid, n.o.s. (Diglycidyl Ether Bisphenol A Epoxy Resin)	9	PG III	Marine Pollutant
IATA	UN 3082	Environmentally hazardous substances, liquid, n.o.s. (Diglycidyl Ether Bisphenol A Epoxy Resin)	9	PG III	Yes

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known

15. REGULATORY INFORMATION

CERCLA: This product is not subject to CERCLA reporting requirements as it is sold. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health

SARA 313 Information: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

California Proposition 65

This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects): epichlorohydrin 106-89-8 <0.1% (cancer, male reproductive toxicity)

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

Canadian CEPA: All of the ingredients in this product are listed on the Canadian DSL.

Canadian WHMIS Classification: Class D Division 2 Subdivision B (Toxic Material Causing other Toxic Effects)

This product has been classified under the CPR and this MSDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Rating: Health = 2 Flammability = 1 Instability = 0
HMIS Rating: Health = 2 Flammability = 1 Physical Hazard = 0

SDS Revision History: Converted to GHS format. All sections revised.

Date of preparation: May 19, 2014

Date of last revision: New SDS

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND USE.

**Dur-A-Gard Hardener
Regular, Fast, OPF, No Sag
SAFETY DATA SHEET**

1. IDENTIFICATION

Product Identifier: Dur-A-Gard Hardener – Regular, Fast, OPF, NoSag

Recommended use: Floor Surfacing

Manufacturer Name: Dur-A-Flex, Inc.
95 Goodwin Street
East Hartford, CT 06108

Telephone number: 860-528-9838

Emergency phone number: 1-800- 424-9300 (CHEMTREC)

Date of Preparation: May 19, 2014

2. HAZARD(S) IDENTIFICATION

This product is one part of a 2 part product. Read and understand the hazard information on the SDS for Dur-A-Gard Resin before using this product.

Classification:

Physical	Health
Not Hazardous	Acute Toxicity Category 4 (Oral) Skin Corrosion Category 1A Eye Damage Category 1 Skin Sensitization Category 1 Specific Target Organ Toxicity – Repeat Exposure Category 2 Germ Cell Mutagenicity Category 2 Toxic to Reproduction Category 1B

Labeling:

Danger!



Hazard statement(s)

Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause damage to liver, kidneys and

Precautionary statement(s)

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe mist, vapors or spray.

central nervous system through prolonged or repeated exposure.
Suspected of causing genetic defects.
May damage the unborn child.

Contaminated work clothing should not be allowed out of the workplace.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves, protective clothing and eye and face protection.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with soap and water.
Wash contaminated clothing before reuse.
Immediately call a POISON CENTER or doctor.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Immediately call a POISON CENTER or doctor.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor.
IF exposed or concerned: Get medical attention. Store locked up.
Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Benzyl Alcohol	100-51-6	30-50
Salicylic Acid	69-72-7	1-10
Polymer of Epichlorohydrin-Polyglycol	Proprietary	1-10
3, Aminomethyl -3,5,5-Trimethylcyclohexylamine	2855-13-2	0-40
1,3-cyclohexanedimethanamine	2579-20-6	0-30
Polyoxypropylenediamine	9046-10-0	0-20
1-Methoxy-1 propanol (PGME)	107-98-2	0-20
1, 5 Pentanediamine, 2 Methyl	15520-10-2	0-10
Triphenyl Phosphite	101-02-0	0-10
Phenol	108-95-2	0-5
Benzene-1,3-Dimethanamine	1477-55-0	0-5
Diglycidyl Ether Bisphenol A Epoxy Resin	25068-38-6	0-5
2-Methoxy-1-propanol	1589-47-5	<1

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Remove victim to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get medical attention.

Skin contact: Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. Get immediate medical attention. If rash occurs, get medical attention. Launder clothing before re-use.

Eye contact: Immediately flush with large quantities of water for 15 minutes, holding the eyelids apart. Get immediate medical attention.

Ingestion: If conscious, rinse mouth with water. Never give anything by mouth to an unconscious or convulsing person. DO NOT INDUCE VOMITING. Get immediate medical attention.

Most important symptoms/effects, acute and delayed: May cause severe eye and skin irritation with possible burns. May cause allergic skin reaction. Inhalation of vapors or mists may cause irritation of mucous membranes and upper respiratory tract. Harmful if swallowed. Prolonged over exposure to phenol may cause kidney, liver and central nervous system effects. Possible developmental hazard. Possible mutagen.

Indication of immediate medical attention and special treatment, if necessary: For eye and skin contact, get immediate attention. If swallowed, get immediate medical attention.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use water spray, foam, carbon dioxide or dry chemical. Cool fire exposed containers with water.

Specific hazards arising from the chemical: Combustion may produce carbon and nitrogen oxides, aldehydes, ammonia, hydrocarbon fragments, phosphorous and phosphorous acid.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing as described in Section 8.

Environmental precautions: Prevent release to the environment. Report releases as required by local, state and federal authorities.

Methods and materials for containment and cleaning up: Contain and collect with an inert absorbent. Place into an appropriate container for disposal. Caution slip hazard. Wash spill site with soap and water.

7. HANDLING AND STORAGE

Precautions for safe handling: Prevent contact with eyes and skin. Do not breathe vapors or mists. Wash thoroughly after handling and before eating, drinking, smoking or using the toilet. Do not taste or swallow. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities: Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from physical damage. Store away from oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Benzyl Alcohol	10 ppm TWA AIHA WEEL
Salicylic Acid	None Established
Polymer of Epichlorohydrin-Polyglycol	None Established
3, Aminomethyl -3,5,5-Trimethyl	None Established
1,3-cyclohexanedimethanamine	None Established
Polyoxypropylenediamine	None Established
1-Methoxy-1 propanol (PGME)	50 ppm TWA ACGIH TLV 100 ppm STEL ACGIH TLV
1, 5 Pentanediamine, 2 Methyl	None Established
Triphenyl Phosphite	None Established
Phenol	5 ppm, skin TWA OSHA PEL 5 ppm, skin TWA ACGIH TLV
Benzene-1,3-Dimethaneamine	0.1 mg/m ³ Ceiling ACGIH TLV
Diglycidyl Ether Bisphenol A Epoxy Resin	None Established
2-Methoxy-1-propanol	None Established

Appropriate engineering controls: Use with adequate general or local exhaust ventilation to maintain exposures below occupational exposure limits.

Personal Protective Equipment:

Respiratory protection: If the exposures are exceeded, a NIOSH approved respirator with an organic vapor cartridge and a dust/mist prefilter or supplied air respirator is recommended. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin protection: Wear impervious gloves such as 4HTM.

Eye protection: Chemical safety goggles and faceshield recommended.

Other: Impervious clothing as needed to prevent contact. An eye wash and safety shower should be available in the immediate work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Clear liquid

Odor: Mild amine odor

Odor threshold: Not available	pH: Not available
Melting Point/Freezing Point: - Not available	Boiling Point: 485°F / 251.6°C
Flash point: 220 °F / 104.4°C	Evaporation rate: 0.7 (butyl acetate =1)
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: Not available	UEL: Not available
Vapor pressure: 12.6 mmHg	Vapor density: Not available
Relative density: <1	Solubility(is): Partially soluble in water
Partition coefficient: n-Octanol/water: Not applicable	Auto-ignition temperature: Not available
Decomposition temperature: Not available	Viscosity: Not available

10. STABILITY AND REACTIVITY

Reactivity: None known.

Chemical stability: Stable

Possibility of hazardous reactions:

Conditions to avoid: Avoid uncontrolled reaction with epoxy resins.

Incompatible materials: Avoid contact with oxidizing agents, acids, bases, reactive metals, ammonia, ketones, aldehydes, acetaldehyde, aluminum alkyl compounds and halogenated compounds. .

Hazardous decomposition products: Thermal decomposition may produce carbon and nitrogen oxides, aldehydes, ammonia, hydrocarbon fragments, phosphorous and phosphorous acid.

11. TOXICOLOGICAL INFORMATION

Inhalation: Inhalation of vapors and mists may cause mucous membrane and upper respiratory tract irritation. Excessive vapors may cause burns to the mucous membranes and cause lung damage.

Ingestion: Swallowing may cause burns to the mouth, throat and stomach with nausea, vomiting and diarrhea.

Skin contact: May cause severe irritation or burns. May cause allergic skin reaction.

Eye contact: May cause severe irritation or burns with redness, tearing, stinging and swelling. May cause permanent damage.

Chronic effects from short- and long-term exposure: Prolonged overexposure to phenol has been shown to cause kidney, liver and central nervous system damage.

Reproductive Toxicity: No information is available on potential developmental toxicity via oral administration of 2-methoxypropanol. It is recognized that 2-methoxypropanoic acid is the putatively developmentally toxic metabolite of 2-methoxypropanol. Pregnant rabbits were administered 2-methoxypropanoic acid via gavage during gestation days 7–19, followed by evaluation on day 28. Significantly increased fetal resorption and incidence of fetal variations and malformations, such as missing ribs, delayed ossifications, retrocaval ureter and paraovarian cyst, were observed at 78 mg of 2-methoxypropanoic acid/kg (equivalent to 67.6 mg 2-methoxypropanol/kg, based on same molar amount conversion). The NOEL was determined to be of 26 mg/kg (equivalent to 22.5 mg/kg of 2-methoxypropanol)

Sensitization: 3, Aminomethyl -3,5,5-trimethyl, diglycidyl ether bisphenol A epoxy resin, triphenyl phosphite and Benzene-1,3-Dimethanamine have been shown to cause sensitization in studies with laboratory animals.

Mutagenicity: Phenol has been shown to cause mutagenicity in in vitro mammalian mutagenicity assays.

Carcinogenicity: None of the components are listed as a carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values: No toxicity data for the product. The acute toxicity value for the product: Oral 1072-1885 mg/kg.

Benzyl Alcohol: Oral rat LD50 1620 mg/kg; Inhalation rat LC50 > 4.178 mg/L

Salicylic Acid: Oral rat LD50 891 mg/kg; Dermal rabbit LD50 > 2000 mg/kg

Polymer of Epichlorohydrin-Polyglycol: Oral rat LD50 >2000 mg/kg, Dermal rabbit LD50 >2000

3, Aminomethyl -3,5,5-Trimethyl: Oral rat LD50 1030 mg/kg; Inhalation rat LC50 >5.01 mg/L/4 hr; Dermal rabbit LD50 >2000 mg/kg

1,3-cyclohexanedimethanamine: Oral rat LD50 >300 – 2000 mg/kg; Dermal rabbit LD50 1700 mg/kg

Polyoxypropylenediamine: Oral rat LD50 2885 mg/kg; Inhalation rat LC50 >0.74 mg/L/8 hr (highest dose tested); Dermal rabbit LD50 2980 mg/kg.
1-Methoxy-1 propanol: Oral rat LD50 4016 mg/kg; Inhalation rat LC50 > 7000 ppm/6 hr; Dermal rabbit LD50 > 2000 mg/kg
1, 5 Pentanediamine, 2 Methyl: Oral rat LD50 1690 mg/kg; Inhalation rat LC50 4.9 mg/L/1 hr.; Dermal rabbit LD50 1870 mg/kg
Triphenyl Phosphite: Oral rat LD50 1.59 g/kg; Inhalation rat LC50 > 6.7 mg/L/1 hr; Dermal rabbit LD50 >2000 mg/kg
Phenol: Oral rat LD50 650 mg/kg; Inhalation rat LC50 >900 mg/m³/8 hr.; Dermal rabbit LD50 660 mg/kg
Benzene-1,3-Dimethanamine: Oral rat LD50 500 mg/kg; Inhalation rat LC50 1.34 mg/L/4 hr; Dermal rat LD50 > 3100 mg/kg
Diglycidyl Ether Bisphenol A Epoxy Resin: Oral rat LD50 > 2000 mg/kg; Dermal rabbit LD50 >2000 mg/kg
2-Methoxy-1-propanol: Oral rat LD50 5710; Dermal rabbit 5660 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Benzyl Alcohol: 96 hr LC50 *Pimephales promelas* 770 mg/L; 48 hr EC50 *daphnia magna* 230 mg/L; 72 hr EC50 *Pseudokirchnerella subcapitata* 770 mg/L
Salicylic Acid: 48 hr EC50 *daphnia magna* 870 mg/L; 72 hr EC50 *Desmodesmus subspicatus* > 100 mg/L
Polymer of Epichlorohydrin-Polyglycol: 96 hr LC50 *Leuciscus idus* 67 mg/L; 48 hr EC50 *daphnia magna* 90 mg/L
3, Aminomethyl -3,5,5-Trimethyl: 96 hr LC50 *Leuciscus idus* 110 mg/L; 48 hr EC50 *daphnia magna* 23 mg/L; 72 hr EC50 *Desmodesmus subspicatus* 37 mg/L
1,3-cyclohexanedimethanamine: 96 hr LC50 *Leuciscus idus* 130 mg/L; 48 hr EC50 *daphnia magna* 33.1 mg/L; 72 hr EC50 *Pseudokirchnerella subcapitata* 56.7 mg/L
Polyoxypropylenediamine: 96 hr LC50 *Oncorhynchus mykiss* > 1000 mg/L (structurally similar chemical); 48 hr EC50 *daphnia magna* 80 mg/L; 72 hr EC50 *Pseudokirchnerella subcapitata* 15 mg/L
1-Methoxy-1 propanol: 96 hr LC50 *Pimephales promelas* 20800 mg/L; 48 hr EC50 *daphnia magna* 23,300 mg/L;
1, 5 Pentanediamine, 2 Methyl: 96 hr LC50 *Pimephales promelas* 1825 mg/L (structurally similar chemical); 48 hr EC50 *daphnia magna* 50 mg/L (structurally similar chemical); 72 hr EC50 *Pseudokirchnerella subcapitata* > 100 mg/L (structurally similar chemical)
Triphenyl Phosphite: No data available
Phenol: 96 hr LC50 *Pimephales promelas* 67.5 mg/L; 48 hr EC50 *daphnia magna* 3.1 mg/L; 72 hr EC50 *Selenastrum capricornutum* 61.1 mg/L
Benzene-1,3-Dimethanamine: No data available
Diglycidyl Ether Bisphenol A Epoxy Resin: 96 hr LC50 *Oryzias latipes* > 15 mg/L; 48 hr EC50 *daphnia magna* > 100 mg/L; 72 hr EC50 *Desmodesmus subspicatus* > 100 mg/L
2-Methoxy-1-propanol: No data available

Persistence and degradability: Benzyl alcohol, 1, 5 pentanediamine, 1-methoxy-1 propanol, 2-methoxy-1-propanol and phenol are readily biodegradable.

Bioaccumulative potential: Benzyl alcohol, 1, 5 pentanediamine, 1-methoxy-1 propanol, methoxy-1-propanol and salicylic acid has a BCF of <5.

Mobility in soil: Benzyl alcohol, 1-methoxy-1 propanol, methoxy-1-propanol and phenol are highly mobility in soil. Salicylic Acid is moderately mobile in soil.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	UN 2735	Amines, liquid, corrosive n.o.s. (1,3-cyclohexanedimethanamine, 1, 5 Pentanediamine, 2 Methyl)	8	PG II	None
TDG	UN 2735	Amines, liquid, corrosive n.o.s. (1,3-cyclohexanedimethanamine, 1, 5 Pentanediamine, 2 Methyl)	8	PG II	None
IMDG	UN 2735	Amines, liquid, corrosive n.o.s. (1,3-cyclohexanedimethanamine, 1, 5 Pentanediamine, 2 Methyl)	8	PG II	None
IATA	UN 2735	Amines, liquid, corrosive n.o.s. (1,3-cyclohexanedimethanamine, 1, 5 Pentanediamine, 2 Methyl)	8	PG II	None

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.

15. REGULATORY INFORMATION

CERCLA: This product has a Reportable Quantity (RQ) of 20,000 lbs. based on the RQ for Phenol of 1,000 lbs. Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations

SARA Hazard Category (311/312): Acute Health, Chronic Health

SARA 313 Information: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Phenol	108-95-2	1-5%
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California Proposition 65

This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects): Epichlorohydrin 106-89-8 (cancer, male reproductive toxicity) <106 ppm

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

Canadian CEPA: All of the ingredients in this product are listed on the Canadian DSL.

Canadian WHMIS Classification: Class E (Corrosive), Class D Division 2 Subdivision A (Very Toxic Material Causing other Toxic Effects), Class D Division 2 Subdivision B (Toxic Material Causing other Toxic Effects)

This product has been classified under the CPR and this MSDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Rating: Health = 3 Flammability = 1 Instability = 0

HMIS Rating: Health = 3 Flammability = 1 Physical Hazard = 0

SDS Revision History: Converted to GHS format. All sections revised.

Date of preparation: May 19, 2014

Date of last revision: New SDS

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND USE.

Armor Top Gloss Resin / Armor Top LH Gloss Resin SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: Armor Top Gloss Resin /Armor Top LH Gloss Resin

Recommended use: Floor Surfacing

Manufacturer Name: Dur-A-Flex, Inc.
95 Goodwin Street
East Hartford, CT 06108

Telephone number: 860-528-9838

Emergency phone number: 1-800- 424-9300 (CHEMTREC)

Date of Preparation: January 31, 2014

2. HAZARD(S) IDENTIFICATION

This product is one part of a 4 part product. Read and understand the hazard information on the SDS for Armor Top Hardener, Armor Top Colorant and Armor Top Grit before using this product.

Classification:

Physical	Health
Flammable Liquid Category 4	Skin Corrosion Category 1C Eye Damage Category 1 Skin Sensitization Category 1 Acute Toxicity Category 4 (Inhalation)

Labeling:

Danger!



Hazard statement(s)

Combustible liquid.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Harmful if inhaled.

Precautionary statement(s)

Keep away from flames and hot surfaces. No smoking.
Do not breathe mists, vapors and spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves, protective clothing, eye protection and face protection.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with soap and water. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

In case of fire: Use water spray, foam, carbon dioxide or dry chemical to extinguish.

Store in a well-ventilated place. Keep cool. Store locked up.

Dispose of contents and container in accordance with local and national regulations

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Blocked Cycloaliphatic Diamine	Proprietary	100%

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Immediately remove victim to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get immediate medical attention.

Skin contact: Immediately flush skin with plenty of soap and water for 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Launder clothing before re-use. (Discard contaminated shoes).

Eye contact: Immediately flush victim's eyes with large quantities of water for at least 15 minutes, holding the eyelids apart. Get immediate medical attention.

Ingestion: If conscious, rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

Most important symptoms/effects, acute and delayed: Corrosive to eye and skin. May cause severe irritation or burns to mucous membranes and upper respiratory tract. Ingestion may cause burns to the mouth, throat and stomach.

Indication of immediate medical attention and special treatment, if necessary: If eye and skin burns occur, get immediate medical attention. If vapors or mists are inhaled and symptoms occur, get immediate medical attention. . If swallowed, get immediate medical attention.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use water spray, foam, carbon dioxide or dry chemical. Do not use water jet. Cool fire exposed containers with water.

Specific hazards arising from the chemical: Runoff from fire may be corrosive. Containers contaminated with water may rupture explosively.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Evacuate the area and ventilate the area. Remove all ignition sources. Wear appropriate protective clothing as described in Section 8.

Environmental precautions: Do not allow spilled material or wash water to enter sewers, surface water or ground water. Report releases as required by local, state and federal authorities.

Methods and materials for containment and cleaning up: Contain and collect with an inert absorbent. Place into an appropriate container for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Prevent contact with eyes, skin and clothing. Do not breathe vapors or mists. Do not taste or swallow. Wash thoroughly after handling and before eating, drinking, smoking or using the toilet. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities: Store in a cool, dry and well-ventilated place. Keep away from heat, sparks and flames. Store in original containers. Keep away from moisture and water. Protect from physical damage. Store away from oxidizing agents and other incompatible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Blocked Cycloaliphatic Diamine	None Established
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Appropriate engineering controls: Use with adequate general or local exhaust ventilation to minimize exposures levels.

Personal Protective Equipment:

Respiratory protection: If the exposures are excessive, a NIOSH approved respirator with an organic vapor cartridge and a dust/mist prefilter or supplied air respirator is recommended. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin protection: Wear impervious gloves such as nitrile rubber, butyl rubber or neoprene.

Eye protection: Chemical safety goggles and faceshield should be worn to prevent contact.

Other: Impervious clothing such as long sleeved shirt and pants, rubber apron and rubber boots should be worn if contact is possible. An eye wash and safety shower should be available in the immediate work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Colorless to pale yellow liquid

Odor: Slight amine odor

Odor threshold: Not available	pH: 10.5-11
Melting Point/Freezing Point: - Not available	Boiling Point: >392°F / >200°C
Flash point: 170.6 °F / 77°C	Evaporation rate: Not available
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: Not available	UEL: Not available
Vapor pressure: 9 mmHg @ 20°C	Vapor density: Not available
Relative density: 0.86 @ 20°C	Solubility(is): Insoluble
Partition coefficient: n-Octanol/water: Not applicable	Auto-ignition temperature: 472°F / 245°C
Decomposition temperature: Not available	Viscosity: 25 mPas @ 20°C

10. STABILITY AND REACTIVITY

Reactivity: Not reactive under normal use conditions.

Chemical stability: Stable

Possibility of hazardous reactions: Contact with moisture or water may produce aliphatic amines and highly flammable vapors.

Conditions to avoid: Avoid moisture and excessive humidity.

Incompatible materials: Avoid contact with oxidizing agents, alkaline earth metals and acid.

Hazardous decomposition products: Thermal decomposition may produce carbon and nitrogen oxides and traces of hydrogen cyanide.

11. TOXICOLOGICAL INFORMATION

Inhalation: Inhalation of mists may cause severe irritation of the nose throat and upper respiratory tract. Severe exposures may cause pulmonary edema.

Ingestion: Swallowing may cause irritation or burns to the mouth, throat and stomach, with nausea, vomiting and diarrhea. Aspiration during ingestion or vomiting may cause chemical pneumonia.

Skin contact: Liquid or mists may cause severe irritation and burns. May cause allergic skin reaction.

Eye contact: Corrosive. Liquid or mists may cause severe irritation or burns with redness, tearing and stinging of the eyes. May cause permanent eye damage.

Chronic effects from short- and long-term exposure: None known.

Reproductive Toxicity: This product is not expected to cause adverse reproductive or developmental effects.

Sensitization: Blocked cycloaliphatic diamine has been shown to cause sensitization in a guinea pig maximization test

Mutagenicity: Blocked cycloaliphatic diamine was negative in the AMES test.

Carcinogenicity: None of the components are listed as a carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values:

Blocked Cycloaliphatic Diamine: Oral rat LD50 4150 mg/kg; Dermal rat LD50 >5000 mg/kg; Inhalation rat LC50 1.276 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Blocked Cycloaliphatic Diamine: 96 hr LC50 Danio rerio > 69.2 mg/L; 48 hr EC50 30.7 mg/L; 72 hr EC50 Desmodemus subspicatus 257.5 mg/L

Persistence and degradability: Blocked cycloaliphatic diamine is not readily biodegradable.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	UN 2735	Amines, Liquid, Corrosive, n.o.s. (Cycloaliphatic Diamine)	8	PG III	None
TDG	UN 2735	Amines, Liquid, Corrosive, n.o.s. (Cycloaliphatic Diamine)	8	PG III	None
IMDG	UN 2735	Amines, Liquid, Corrosive, n.o.s. (Cycloaliphatic Diamine)	8	PG III	None
IATA	UN 2735	Amines, Liquid, Corrosive, n.o.s. (Cycloaliphatic Diamine)	8	PG III	None

*This product qualifies for “Limited Quantity” for any package less than 1.3 gallons.

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known

15. REGULATORY INFORMATION

CERCLA: This product is not subject to CERCLA reporting requirements as it is sold. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health, Chronic Health, Fire Hazard

SARA 313 Information: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

California Proposition 65

This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects): None

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

Canadian WHMIS Classification: Class B Division 3 (Combustible Liquid); Class D Division 2 Subdivision B (Toxic material causing other chronic effects); Class E (Corrosive)

This product has been classified under the CPR and this MSDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Rating: Health = 3 Flammability = 2 Instability = 0
HMIS Rating: Health = 3 Flammability = 2 Physical Hazard = 0

SDS Revision History: Converted to GHS format. All sections revised.

Date of preparation: January 31, 2014

Date of last revision: New SDS

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND USE.

Armor Top Hardener, Armor Top LH Hardener SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: Armor Top Hardener, Armor Top LH Hardener

Recommended use: Floor Surfacing

Manufacturer Name: Dur-A-Flex, Inc.
95 Goodwin Street
East Hartford, CT 06108

Telephone number: 860-528-9838

Emergency phone number: 1-800- 424-9300 (CHEMTREC)

Date of Preparation: January 30, 2014

2. HAZARD(S) IDENTIFICATION

This product is one part of a 4 part product. Read and understand the hazard information on the SDS for Armor Top Resin, Armor Top Colorant and Armor Top Grit before using this product.

Classification:

Physical	Health
Flammable Liquid Category 3	Acute Toxicity Category 4 – Inhalation Eye Irritation Category 2A Skin Sensitization Category 1 Respiratory Sensitization Category 1 Specific Target Organ Toxicity – Single Exposure Category 3 (Respiratory Irritation)

Labeling:

Danger!



Hazard statement(s)

Flammable Liquid and vapor.
Harmful if inhaled.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or

Precautionary statement(s)

Keep away from heat, sparks, open flames, and hot surfaces.
No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment
Use explosion-proof electrical, ventilating and lighting

breathing difficulties if inhaled.
May cause respiratory irritation.

equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing mist, vapors or spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves and eye protection.
In case of inadequate ventilation wear respiratory protection.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical attention.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
If skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
In case of fire: Use dry chemical, carbon dioxide and foam to extinguish.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Homopolymer of Hexamethylene Diisocyanate	28182-81-2	70-90%
Dimethyl Ester	Proprietary	5-20%
Propylene Carbonate	108-32-7	5-15%
UV Absorber	Proprietary	1-5%
Hexamethylene-1,6-Diisocyanate	822-06-0	<0.55%

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Immediately remove to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get immediate medical attention. Asthma-like symptoms may develop immediately or delayed up to several hours.

Skin contact: Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. If rash or irritation develops, get medical attention. Launder clothing before re-use.

Eye contact: Immediately flush with large quantities of water for 15 minutes, holding the eyelids apart. Get medical attention if irritation develops.

Ingestion: If conscious, rinse mouth with water. Never give anything by mouth to an unconscious or convulsing person. DO NOT INDUCE VOMITING. Get medical attention.

Most important symptoms/effects, acute and delayed: May be irritating to eyes, skin and respiratory system. May cause allergic skin and respiratory reaction. If an allergic respiratory reaction occurs, get immediate medical attention. Symptoms may be delayed. Individuals sensitized to isocyanates may have a life-threatening allergic reaction.

Indication of immediate medical attention and special treatment, if necessary: If skin or respiratory sensitization occurs, get immediate medical attention. Symptoms may be delayed for several hours after exposure. Respiratory sensitization may be life threatening.

Notes to Physicians: If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision. This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. Inducing vomiting is contraindicated because of the irritating nature of the compound. There is no specific antidote for ingestions. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate. Treatment is essentially symptomatic.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use foam, carbon dioxide and dry chemical. Cool fire exposed containers with water.

Specific hazards arising from the chemical: Flammable liquid and vapors. Vapors are heavier than air and will travel along surfaces to remote ignition sources and flash back. This product reacts with water producing heat and gases. Reaction may be violent. Closed containers may rupture when exposed to extreme heat or contaminated with water. Combustion may produce isocyanate vapors and other irritating, highly toxic gases. Exposure to heated diisocyanates can be extremely dangerous.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Do not allow run-off from fire fighting to enter drains or water courses. Decontaminate equipment and protective clothing before reuse.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Evacuate spill area and keep unprotected personnel away. Remove all sources of ignition. Ventilate area with explosion proof equipment. Wear appropriate protective clothing as described in Section 8.

Environmental Precautions: Avoid release into the environment. Do not flush to sewer! Report releases as required by local, state and federal authorities.

Methods and materials for containment and cleaning up: Contain and collect with an inert absorbent. Use non-sparking tools and equipment. Neutralize with a decontamination solution made up of 80% water and 20% non-ionic surfactant (such as Plurafac SL-60 or Tergitol TMN-10) or 90% water and 3-8% ammonium hydroxide or concentrated ammonia and 2% detergent. Wait 15 minutes. Collect into an open-head metal

container. Repeat until the surface is completely decontaminated. Cover loosely with lid and allow container to vent for 72 hours to allow carbon dioxide to escape.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not breathe vapors or mists. Use only with adequate ventilation. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties are not adequate to prevent overexposure from inhalation. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating.

Keep product away from heat, sparks, flames and all other sources of ignition. Do not permit smoking in use or storage areas. Use with non-sparking tools and explosion proof equipment. Electrically bond and ground containers for transfer.

Conditions for safe storage, including any incompatibilities: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Protect from physical damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Homopolymer of Hexamethylene Diisocyanate	0.5 mg/m ³ TWA Manufacturer 1.0 mg/m ³ STEL Manufacturer
Dimethyl Ester	None Established
Propylene Carbonate	None Established
UV Absorber	None Established
Hexamethylene-1,6-Diisocyanate	0.005 ppm TWA ACGIH TLV 0.02 ppm Ceiling Manufacturer

Appropriate engineering controls: Use with adequate general or local exhaust ventilation to maintain exposures below the occupational exposure limits.

Individual protection measures, such as personal protective equipment:

Respiratory protection: If the exposure limits are exceeded or if exposure levels are unknown, a NIOSH approved positive pressure air supplied respirator with a full facepiece or air supplied hood should be used. In some situations where exposure levels are known to be below 10 times the exposure limit an air purifying respirator (organic vapor with particulate prefilter) can be used. A change schedule for cartridges is required. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin protection: Wear impervious gloves such as butyl rubber, neoprene or nitrile rubber.

Eye protection: Chemical safety goggles recommended.

Other: Impervious clothing as needed to prevent contact. An eye wash should be available in the immediate work area.

Medical Surveillance: A pre-placement physical should be given to all employees that will work with isocyanates. Employees with a prior isocyanate sensitization should be excluded from working with this product. A history of adult asthma, eczema and respiratory allergies are possible reasons for excluding or restricting the employee from working with this product. A comprehensive annual medical surveillance

program should be instituted for all employees who work with isocyanates. Once a worker has been diagnosed as sensitized, no further exposure can be permitted.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Clear liquid
Odor: Ester-like odor

Odor threshold: 0.01 (HDI)	pH: Not applicable
Melting Point/Freezing Point: Not available	Boiling Point: 392°F / 200°C (dimethyl ester)
Flash point: 110 °F / 43.3°C	Evaporation rate: 0.015
Flammability (solid, gas): Not flammable	
Flammable limits: LEL: 4.22% (dimethyl ester)	UEL: 12.87% (dimethyl ester)
Vapor pressure: 0.00000047 (HDI)	Vapor density: 6.6
Relative density: 1.11	Solubility(is): Insoluble in Water
Partition coefficient: n-Octanol/water: Not available	Auto-ignition temperature Not available
Decomposition temperature: Not available	Viscosity: Not available

10. STABILITY AND REACTIVITY

Reactivity: None known.

Chemical stability: Stable

Possibility of hazardous reactions: Contact with water or temperatures above 350°F may cause polymerization.

Conditions to avoid: Keep away from heat, sparks and flames.

Incompatible materials: Avoid contact with water, alcohols, amines, oxidizing agents, reducing agents, acids and bases.

Hazardous decomposition products: Thermal decomposition may produce carbon and nitrogen oxides, hydrogen cyanide and isocyanate vapors.

11. TOXICOLOGICAL INFORMATION

Inhalation: Inhalation of vapors or mists may cause mucous membrane and respiratory irritation. Homopolymer of hexamethylene diisocyanate has been shown to cause respiratory sensitization. Symptoms include dryness of the throat, tightness of chest and difficulty in breathing. Symptoms may be delayed for several hours after exposure. This product can produce asthmatic sensitization upon a single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. The allergic respiratory reaction may be life threatening.

Ingestion: Swallowing may cause gastrointestinal irritation abdominal pain, nausea, vomiting and diarrhea.

Skin contact: Skin contact may cause mild irritation with redness, itching and swelling. May cause allergic skin reaction. Homopolymer of hexamethylene diisocyanate has been shown to be mildly irritating to rabbit skin. Animal tests have indicated that respiratory sensitization can result from skin contact with isocyanates.

Eye contact: May cause mild irritation with redness, tearing, stinging and swelling. Homopolymer of hexamethylene diisocyanate has been shown to be slightly irritating to rabbit eyes.

Chronic effects from short- and long-term exposure: Prolonged exposure to diisocyanates or polyisocyanates may cause chronic irritation, decreased lung function and lung damage and conjunctivitis.

Reproductive Toxicity: This product is not expected to cause adverse reproductive or developmental effects.

Sensitization: Hexamethylene-1,6-diisocyanate has been shown to cause sensitization in a guinea pig maximization test.

Mutagenicity: Homopolymer of hexamethylene diisocyanate was negative the in the AMES test (with/without metabolic activation)

Carcinogenicity: None of the components are listed as a carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values: Not acute toxicity data for the product. Acute Toxicity Estimate (ATE) Oral LD50 5614 mg/kg; Derma; 5135 mg/kg; Inhalation 1.91 mg/L
 Homopolymer of hexamethylene diisocyanate: Oral rat LD50 >5,000 mg/kg; Inhalation rat LC50 1.5 mg/L/4h hr (acute toxicity point estimate); Dermal rabbit LD50 >5,000 mg/kg.
 Dimethyl Ester: Oral rat LD50 6 g/kg; Dermal rat LD50 >2500 mg/kg; Inhalation rat LC50 >140 mg/L/4 hr.
 Propylene Carbonate: Oral rat LD50 > 5000 mg/kg; Dermal rabbit LD50 >2000 mg/kg.
 UV Absorber: Oral rat LD50 >2000 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Homopolymer of hexamethylene diisocyanate: 96 hr LC0 Brachydanio rerio >100 mg/L; 48 hr EC0 daphnia magna >100 mg/L; 72 hr EC50 Scenedesmus subspicatus >1,000 mg/L

Dimethyl Ester: No data available

Propylene Carbonate: 96 hr LC50 Cyprinus carpio > 1000 mg/L; 48 hr EC50 daphnia magna > 1000 mg/L; 72 hr EC50 desmodesmus subspicatus > 900 mg/L

UV Absorber: No data available

Persistence and degradability: Homopolymer of hexamethylene diisocyanate is not readily biodegradable. Dimethyl Ester is readily biodegradable.

Bioaccumulative potential: Not expected to bioaccumulate. Dimethyl Ester has a BCF of 3.

Mobility in soil: Dimethyl Ester is highly mobile in soil.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations. Incineration is the preferred method.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Exempted from HazMat Regulations (49CFR 173.150f) *	None	None	None
TDG	None	Exempted from Regulation	None	None	None

		(Section 1.33) *			
IMDG	UN1993	Flammable Liquid n.o.s. (Dimethyl Ester)	3	PG III	None
IATA	UN1993	Flammable Liquid n.o.s. (Dimethyl Ester)	3	PG III	None

* **Containers Not Over 450 Liters (119 gal):**

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.

15. REGULATORY INFORMATION

CERCLA: This product has a Reportable Quantity (RQ) of 18,182 lbs. based on the RQ for Hexamethylene-1,6-Diisocyanate of 100 lbs. Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health, Chronic Health

SARA 313 Information: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Hexamethylene-1,6-Diisocyanate	822-06-0	<0.55%
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California Proposition 65

This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects): None

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

Canadian WHMIS Classification: Class B Division 3 (Combustible Liquid), Class D Division 2 Subdivision A (Very Toxic Material Causing other Toxic Effects), Class D Division 2 Subdivision B (Toxic Material Causing other Toxic Effects)

This product has been classified under the CPR and this MSDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Rating: Health = 2 Flammability = 2 Instability = 1
HMIS Rating: Health = 2 Flammability = 2 Physical Hazard = 1

SDS Revision History: Converted to GHS format. All sections revised.

Date of preparation: January 30, 2014

Date of last revision: New SDS

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND USE.

Armor Top Colorants SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: Armor Top Colorants

Recommended use: Floor Surfacing

Manufacturer Name: Dur-A-Flex, Inc.
95 Goodwin Street
East Hartford, CT 06108

Telephone number: 860-528-9838

Emergency phone number: 1-800- 424-9300 (CHEMTREC)

Date of Preparation: February 27, 2015

2. HAZARD(S) IDENTIFICATION

Classification:

Physical	Health
Flammable Liquid Category 4	Not Hazardous

Labeling:

Warning!

Hazard statement(s)

Combustible liquid.

Precautionary statement(s)

Keep away from flames and hot surfaces. No smoking.
Wear protective gloves.
In case of fire: Use water spray, carbon dioxide, alcohol foam or dry chemical to extinguish Store in a well-ventilated place.
Keep cool.
Store locked up.
Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS
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Chemical name	CAS No.	Concentration
Dipropylene Glycol Ether Acetate (DPM Acetate)	88917-22-0	0-100%
1-Methoxy-2-propyl acetate (PGMEA)	108-65-6	40-60%
Titanium Dioxide	13463-67-7	0-70%
Carbon Black	1333-86-4	0-10%

* The titanium dioxide and carbon black in this product is inextricably bound in a manner that no exposure occurs during normal use and handling. Therefore this product is not classified as a carcinogen.

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Remove victim to fresh air. If irritation occurs or breathing is difficult, get medical attention.

Skin contact: Remove contaminated clothing. Wash skin with soap and water for several minutes. If irritation persists, get medical attention. Launder clothing before re-use.

Eye contact: Flush with large quantities of water, holding the eyelids apart. Get medical attention if irritation persists.

Ingestion: If conscious, rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Get medical attention if symptoms develop.

Most important symptoms/effects, acute and delayed: May cause mild eye irritation. Prolonged skin contact may cause irritation. Inhalation of vapors or mists may cause upper respiratory tract irritation. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Indication of immediate medical attention and special treatment, if necessary: None expected under normal conditions of use.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use water spray, carbon dioxide, alcohol foam or dry chemical. Cool fire exposed containers with water.

Specific hazards arising from the chemical: Combustible liquid. Vapors are heavier than air and will travel along surfaces to remote ignition sources and flash back. Closed containers may explode if exposed to extreme heat. Combustion may produce aldehydes and carbon and nitrogen oxides.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Avoid contact with skin, eyes or clothing. Avoid breathing vapors. Wear appropriate protective clothing as described in Section 8. Eliminate all ignition sources. Ventilate the area. Provide explosion-proof ventilation.

Environmental precautions: Avoid release to the environment. Report releases as required by local, state and federal authorities.

Methods and materials for containment and cleaning up: Contain and collect with an inert absorbent. Place into an appropriate container for disposal. Use non-sparking tools and equipment. If spill has not ignited, use water spray to disperse the vapors and protect personnel attempting to stop leak.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin, and clothing. Avoid breathing vapors or mist. Wash thoroughly after handling. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation. Ground container when pouring. Keep away from heat, sparks, flames and all sources of ignition. Do not expose to direct sunlight. Empty containers retain product residues and can be hazardous. Follow all SDS precautions when handling empty containers.

Conditions for safe storage, including any incompatibilities: Store in a cool, dry, well ventilated area. Keep container tightly closed when not in use. Protect from physical damage. Keep away from oxidizers and other incompatible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Dipropylene Glycol Ether Acetate (DPM Acetate)	None Established
1-Methoxy-2-propyl acetate (PGMEA)	50 ppm AIHA WEEL
Titanium Dioxide	15 mg/m ³ TWA OSHA PEL (total dust) 10 mg/m ³ TWA ACGIH TLV
Carbon Black	3.5 mg/kg TWA OSHA PEL 3 mg/kg TWA ACGIH TLV (inhalable)

Appropriate engineering controls: Use with adequate general or local exhaust ventilation to maintain exposures below occupational exposure limits. Use explosion-proof equipment where required.

Personal Protective Equipment:

Respiratory protection: In operations where exposure limits are exceeded, an approved respirator with organic vapor cartridges or supplied air respirator should be used. Selection and use of respiratory equipment must be in accordance with appropriate regulations and good industrial hygiene practice.

Skin protection: Wear impervious gloves such as butyl rubber, nitrile or neoprene to prevent skin contact. .

Eye protection: Wear safety chemical goggles if contact is possible.

Other: Impervious clothing as needed to prevent contact and prevent contamination of personal clothing. Suitable washing facilities should be available in the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Clear liquid

Odor: Fruity, aromatic odor

Odor threshold: Not available	pH: Not available
Melting Point/Freezing Point: Not available	Boiling Point: 392°F / 200°C
Flash point: 186 °F / 85.5°C	Evaporation rate: 0.015
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: 1.5% (PGMEA)	UEL: 10.0 % (PGMEA)
Vapor pressure: 0.5 mmHg (PGMEA)	Vapor density (air =1): 6.6
Relative density: 1.11	Solubility(is): Insoluble
Partition coefficient: n-Octanol/water: Not applicable	Auto-ignition temperature: 518°F (270°C) (PGMEA)

Decomposition temperature: Not available	Viscosity: Not available
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10. STABILITY AND REACTIVITY

Reactivity: May react with oxygen.

Chemical stability: Stable under normal conditions of use.

Possibility of hazardous reactions: May react with oxygen to form peroxides.

Conditions to avoid: Avoid heat, sparks and open flames.

Incompatible materials: Avoid contact with oxidizing agents, reducing agents and peroxides.

Hazardous decomposition products: Thermal decomposition may produce aldehydes, carbon and nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Inhalation: Vapors or mists may cause irritation of the nose, throat and upper respiratory tract.

Ingestion: Swallowing may cause gastrointestinal irritation, nausea and diarrhea.

Skin contact: Prolonged skin contact may causes redness and drying of the skin.

Eye contact: May cause mild eye irritation with redness, tearing and swelling.

Chronic effects from short- and long-term exposure: None known.

Reproductive Toxicity: None of the components have been shown to cause reproductive or developmental effects.

Sensitization: None of the components have been shown to cause sensitization in animals or humans.

Mutagenicity: None of the components have been shown to cause mutagenic activity.

Carcinogenicity: Titanium dioxide is listed by IARC as a group 2B carcinogen (possible human carcinogen). Carbon black is listed by IARC as a group 2B carcinogen (possibly carcinogenic to humans), and by ACGIH as an A3 (confirmed animal carcinogen with unknown relevance to humans). These component is encapsulated in a polymer matrix so no inhalable exposure occurs during use or disposal. None of the other components greater than 0.1% are listed by OSHA, IARC, NTP or ACGIH as a carcinogen.

Acute Toxicity Values: No toxicity data for the product. Acute Toxicity Estimate: Oral rat LD50 14285 mg/kg, Dermal >2000 mg/kg

Dipropylene Glycol Ether Acetate: Oral rat LD50 >5000 mg/kg, Dermal rabbit LD50 >2000 mg/kg

1-Methoxy-2-propyl acetate: Oral rat LD50 8532 mg/kg, Dermal rat LD50 >2000 mg/kg, Inhalation rat LC0 >23.4 mg/L/6 hr

Titanium Dioxide: Oral rat LD50 > 5000 mg/kg, Inhalation rat LC50 6.82 mg/L/4 hr,

Carbon Black: Oral rat LD50 > 8000 mg/kg, Inhalation rat LC50 > 4.6 mg/m³/4 hr.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Dipropylene Glycol Ether Acetate: 96 hr LC50 Oncorhynchus mykiss 111 mg/kg. 48 he daphnia magna 2701 mg/L, 70 hr EC50 Selenastrum capricornutum >1000 mg/L

1-Methoxy-2-propyl acetate: 96 hr LC50 Oncorhynchus mykiss 100 mg/L, 48 hr EC50 daphnia magna > 500 mg/L, 72 hr EC50 Pseudokirchnerella subcapitata > 1000 mg/L

Titanium Dioxide: 72 hr EC50 Pseudokirchnerella subcapitata 61 mg/L
Carbon Black: 96 hr LC0 Danio rerio 1000 mg/L, 24 hr EC50 daphnia magna > 5600 mg/L, EC50

Persistence and degradability: 1-Methoxy-2-propyl acetate and dipropylene glycol ether acetate are readily biodegradable.

Bioaccumulative potential: -Methoxy-2-propyl acetate has a calculated BCF of 3.16. This suggests the potential for bioaccumulation is low.

Mobility in soil: -Methoxy-2-propyl acetate and dipropylene glycol ether acetate are highly mobility on soil.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	UN1866	Resin Solution	3	III	None
TDG	UN1866	Resin Solution	3	III	None
IMDG	UN1866	Resin Solution	3	III	None
IATA	UN1866	Resin Solution	3	III	None

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known

15. REGULATORY INFORMATION

CERCLA: This product is not subject to CERCLA reporting requirements as it is sold. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Chronic Health, Fire Hazard

SARA 313 Information: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

California Proposition 65

This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects):

Ethylbenzene	100-41-4	<0.023	Cancer
Titanium Dioxide	13463-67-7	0-70%	Cancer
Carbon Black	1333-86-4	0-10%	Cancer

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

Canadian WHMIS Classification: Class B-3 (Combustible Liquid), Class D Division 2 Subdivision A (Very toxic Material Causing other Toxic Effects)

This product has been classified under the CPR and this SDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Rating: Health = 2 Flammability = 2 Instability = 0
HMIS Rating: Health = 2* Flammability = 2 Physical Hazard = 0

SDS Revision History: Converted to GHS format. All sections revised.

Date of preparation: February 27, 2015

Date of last revision: New SDS

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND USE.

Armor Top Grit SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: Armor Top Grit

Recommended use: Floor Surfacing

Manufacturer Name: Dur-A-Flex, Inc.
95 Goodwin Street
East Hartford, CT 06108

Telephone number: 860-528-9838

Emergency phone number: 1-800- 424-9300 (CHEMTREC)

Date of Preparation: October 22, 2014

2. HAZARD(S) IDENTIFICATION

Classification:

Physical	Health
Not Hazardous	Not Hazardous

Labeling: None Required

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Aluminum Oxide	1344-28-1	95-100%

4. FIRST-AID MEASURES

Inhalation: Remove victim to fresh air. If breathing is difficult, have qualified personnel administer oxygen. Seek medical attention if irritation or other symptoms persist.

Skin contact: Remove contaminated clothing. Wash with soap and water. If irritation develops, get medical attention.

Eye contact Remove contact lenses if present and easy to do. Flush eyes thoroughly with large amounts of water, holding eyelids open. If irritation persists, seek medical attention.

Ingestion: If conscious, rinse mouth with water. Never give anything by mouth to an unconscious or convulsing person. Get medical attention.

Most important symptoms/effects, acute and delayed: Dust may cause eye and respiratory irritation. Prolonged inhalation of high concentration of dust may cause adverse effects on the lungs.

Indication of immediate medical attention and special treatment, if necessary: None required under normal conditions of use.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use media appropriate for the surrounding fire.

Specific hazards arising from the chemical: None known. This product is not flammable.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing as described in Section 8. Avoid breathing dust.

Environmental precautions: Avoid release to the environment. Report releases as required by local, state and federal authorities.

Methods and materials for containment and cleaning up: Scoop or sweep up and place into a container for disposal. Avoid generating dust.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin and clothing. Avoid breathing dust. Wash thoroughly after handling. Use with adequate ventilation.

Conditions for safe storage, including any incompatibilities: No special storage required.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Aluminum Oxide	5 mg/m ³ TWA (respirable), 15 mg/m ³ TWA (total dust) OSHA PEL
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Appropriate engineering controls: Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

Personal Protective Equipment:

Respiratory protection: If the exposures are excessive, a NIOSH approved respirator with a dust/mist filter or supplied air respirator is recommended. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin protection: Wear rubber gloves if required to avoid skin contact.

Eye protection: Chemical safety glasses recommended to avoid eye contact.

Other: None required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): White powder.

Odor: No odor.

Odor threshold: Not available	pH: Not applicable
Melting Point/Freezing Point: 2070°C	Boiling Point: Not applicable
Flash point: Not applicable	Evaporation rate: Not applicable
Flammability (solid, gas): Not flammable	
Flammable limits: LEL: Not applicable	UEL: Not applicable
Vapor pressure: Not applicable	Vapor density: Not applicable
Relative density: 3.95	Solubility(is): Insoluble
Partition coefficient: n-Octanol/water: Not applicable	Auto-ignition temperature: Not applicable
Decomposition temperature: Not available	Viscosity: Not applicable

10. STABILITY AND REACTIVITY

Reactivity: None known.

Chemical stability: Stable.

Possibility of hazardous reactions: Not expected to be reactive.

Conditions to avoid: None known.

Incompatible materials: None known.

Hazardous decomposition products: None known.

11. TOXICOLOGICAL INFORMATION

Inhalation: Excessive inhalation of dust may cause upper respiratory tract irritation, coughing and difficulty in breathing.

Ingestion: Swallowing large quantities may cause gastrointestinal irritation, nausea and diarrhea.

Skin contact: May cause mechanical skin irritation with redness and pain.

Eye contact: May cause mechanical irritation with redness and tearing.

Chronic effects from short- and long-term exposure: Prolonged inhalation of respirable dust may cause adverse lung effects.

Reproductive Toxicity: This product is not expected to cause adverse reproductive or developmental effects.

Sensitization: This product has not been shown to cause sensitization in animals or humans.

Mutagenicity: This product is not expected to cause mutagenic activity.

Carcinogenicity: None of the components are listed as a carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values:

Aluminum Oxide: Oral rat LD50 >10000 mg/kg; LC50 Inhalation rat >2.3 mg/L/4 hr

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Aluminum oxide: NOEC 96 hr Salmo trutta >100 mg/L; NOEC 48 hr daphnia magna >100 mg/L;

NOEC 72 hr Selenastrum capricornutum >100 mg/L

Persistence and degradability: Biodegradation is not applicable to inorganic substances.

Bioaccumulative potential: No data available

Mobility in soil: No data available.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated	None	None	None
TDG	None	Not Regulated	None	None	None
IMDG	None	Not Regulated	None	None	None
IATA	None	Not Regulated	None	None	None

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known

15. REGULATORY INFORMATION

CERCLA: This product is not subject to CERCLA reporting requirements as it is sold. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Not hazardous

SARA 313 Information: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

California Proposition 65

This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects): None known

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

Canadian CEPA: All of the ingredients in this product are listed on the Canadian DSL.

Canadian WHMIS Classification: Not a controlled product

This product has been classified under the CPR and this MSDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Rating: Health = 1 Flammability = 0 Instability = 0
HMIS Rating: Health = 1 Flammability = 0 Physical Hazard = 0

SDS Revision History: Converted to GHS format. All sections revised.

Date of preparation: October 6, 2014

Date of last revision: New SDS

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND USE.