

ROYSTON® DIVISION OF CHASE CORPORATION

MATERIAL SAFETY DATA SHEET

Product: Royston Flex-Flo Expansion Joint Compound Part A

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY: ROYSTON DIVISION OF CHASE CORP.
128 FIRST STREET
PITTSBURGH, PA 15238

GENERAL INFORMATION: (412) 828-1500

EMERGENCY, CHEMTREC: 800-424-9300, Only in the event of chemical emergencies involving a spill, leak, fire, exposure or any accident involving chemicals. Outside USA: (703) 527-3887

REVISION DATE: February 27, 2008
PREPARED BY: Frederick F. Fischer, Jr.

2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS NUMBER	IDENTIFICATION	APP. % BY WGT.
64742-52-5	Hydro Treated Heavy Naphthenic Distillate	20-25
69102-90-5	Hydroxyl Terminated Polybutadiene	15-20
8052-42-4	Petroleum Asphalt	10-15
1333-86-4	Carbon Black	40-45

3. HAZARDOUS IDENTIFICATION

HAZARDOUS POLYMERIZATION: Will Not Occur.

ROUTES OF EXPOSURE: Inhalation, Skin, Eyes and Ingestion.

IMMEDIATE EFFECTS:

INHALATION: No significant signs or symptoms indicate of any adverse health hazard are expected to occur at standard conditions due to the low volatility of this material.

SKIN CONTACT: Prolonged or repeated contact may cause skin irritation

EYE CONTACT: Irritating, but will permanently injure eye tissue

INGESTION: If swallowed, this product may cause vomiting, nausea and diarrhea and maybe harmful if swallowed in large amounts.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

ACCUTE: None.

CHRONIC: Prolonged contact may cause dermatitis.

4. FIRST AID MEASURES

GENERAL ADVICE:

INHALATION: Inhalation is improbable unless exposed to heated vapors. Move victim to fresh air. If breathing is difficult give oxygen. If breathing has stopped give artificial respiration. Seek medical attention.

SKIN CONTACT: Remove with waterless hand cleaner. Wash with soap and water.

EYE CONTACT: Flush eyes with water.

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INGESTION: Do not induce vomiting! If conscious give large quantities of water. Keep victim warm and quiet. Seek medical attention. Should vomiting occur, lean victim over to reduce the risk of aspiration.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Foam, Carbon Dioxide or dry chemical. If entering a confined area, use self-contained breathing apparatus if applicable

EXPLOSION DATA:

SENSITIVITY TO MECHANICAL IMPACT: Stable.

SENSITIVITY TO STATIC DISCHARGE: Stable.

6. ACCIDENTAL RELEASE MEASURES

PRECAUTIONS FOR PERSONNEL: Wear protective clothing. Including gloves, and protective eyewear.

ENVIRONMENTAL PRECAUTIONS: Avoid discharge to drains, sewers and natural water supply.

PROCESS FOR CLEANING: Absorb with inert material. Remove sources of ignition. Scoop material with non-sparking tools.

7. HANDLING AND STORAGE

HANDLING: Avoid direct contact with product. No special ventilation required.

STORAGE: Store away from ignition sources and open flames.

8. EXPOSURE RESTRICTIONS AND PERSONAL PROTECTION

MATERIALS WITH LIMITS THAT REQUIRE SUPERVISION:

<u>CAS NUMBER</u>	<u>IDENTIFICATION</u>	<u>APP. % BY WGT.</u>	<u>NIOSH REL</u>	<u>VALUE</u>	<u>UNIT</u>
64742-52-5	Hydro Treated Heavy Naphthenic Distillate	20-25	TWA	5.0	mg/m ³
69102-90-5	Hydroxyl Terminated Polybutadiene	15-20		N/E	
8052-42-4	Petroleum Asphalt	10-15	TWA	5.0	mg/m ³
1333-86-4	Carbon Black	40-45	TWA	2.4	mg/m ³

9. PHYSICAL PROPERTIES

ODOR: MUSTY

<u>CHANGE OF STATE</u>	<u>VALUE/AREA</u>	<u>UNIT</u>	<u>METHOD</u>
FREEZING POINT:	N/E	⁰ C	
BOILING POINT:	>177 (350)	⁰ C (⁰ F)	
FLASH POINT:	> 840 (450)	⁰ C (⁰ F)	TCC
IGNITION TEMPERATURE:			
SPECIFIC GRAVITY:	1.03	H ₂ O = 1	
% VOLATILE BY VOLUME:	Nil	%	
SOLUBILITY IN WATER:	Insoluble		
PH VALUE:	N/A		
VISCOSITY:		CPS	
FLAMMABLE LIMITS:	LEL N/A UEL N/A		
EVAPORATION RATE:	N/A	BUAC = 1	

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10. STABILITY AND REACTIVITY

STABILITY: Stable
 CONDITIONS TO AVOID: Open Flame and contact with strong oxidizing agents.
 MATERIALS TO AVOID: None known
 DECOMPOSITION PRODUCTS: Carbon Monoxide, Carbon Dioxide and Oxides of Nitrogen.
 EYES: Remove contact lenses. Flush eyes with large amounts of water, preferably lukewarm water, for at least 15 minutes. If irritation persists, **GET MEDICAL ATTENTION.**
 SKIN: If solid product gets on the skin, wash the contaminated skin with soap and water. If irritation develops or persists after the area has been washed.
 INHALATION: If a person breathes large amounts of heated product vapors, move the exposed person to fresh air at once. If breathing difficult, **GET MEDICAL ATTENTION.**
 CONSUMPTION: If swallowed, call physician immediately. Only induce vomiting at the instructions of a physician. **DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.**

11. TOXICOLOGICAL INFORMATION

<u>CAS NUMBER</u>	<u>IDENTIFICATION</u>	<u>DERMAL LD50</u>	<u>INHALATION LC50</u>	<u>ORAL LD50</u>
64742-52-5	Hydro Treated Heavy Naphthenic Distillate	> 3g/kg (rat)	N/E	> 5 g/kg (rat)
69102-90-5	Hydroxyl Terminated Polybutadiene	N/E	N/E	N/E
8052-42-4	Petroleum Asphalt	N/E	N/E	N/E
1333-86-4	Carbon Black	N/E	N/E	N/E

<u>CAS NUMBER</u>	<u>IDENTIFICATION</u>	<u>CARCINOGENICITY</u>		<u>TERATOGENICITY</u>	<u>MUTAGENICITY</u>
		<u>ACGIH</u>	<u>IARC</u>		
64742-52-5	Hydro Treated Heavy Naphthenic Distillate	N/E	N/E	N/E	N/E
69102-90-5	Hydroxyl Terminated Polybutadiene	N/E	N/E	N/E	N/E
8052-42-4	Petroleum Asphalt	N/E	N/E	N/E	N/E
1333-86-4	Carbon Black	N/E	N/E	N/E	N/E

12. ECOLOGICAL INFORMATION

VOLATILE ORGANIC COMPOUNDS: 0 Grams Per Liter (g/l). 0 Pounds Per Gallon (lb/g).

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Disposal should be made in accordance with Federal, State and Local regulations.

14. TRANSPORT INFORMATION

SHIPPING CLASS: Not Regulated

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15. REGULATORY INFORMATION

SARA SECTION 302:

SARA (311,312) HAZARD CLASS:

SARA (313) CHEMICALS: NONE

CERCLA: N/A

CPSC CLASSIFICATION:

HMIS: FLAMMABILITY: 1 REACTIVITY: 0 HEALTH: 1

NFPA: FLAMMABILITY: 1 REACTIVITY: 0 HEALTH: 1

CALIFORNIA PROPOSITION 65:

- A. This product contains a chemical known to the State of CA to cause birth defects or other reproductive harm.
 - B. This product contains a chemical known to the State of CA to cause cancer.
 - C. This product contains a chemical known to the State of CA to cause cancer and birth defects or other reproductive harm.
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16. OTHER INFORMATION

THIS DATA IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND ARE NOT A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED IS MADE. THE STATED RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE.

C = Ceiling Limit, NEGL = Negligible, N/A = Not Applicable, N/E = Not Established, PROP. = Proprietary.

ROYSTON[®] DIVISION OF CHASE CORPORATION

MATERIAL SAFETY DATA SHEET

Product: Royston Flex-Flo Adhesive Sealant Part B

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY: ROYSTON DIVISION OF CHASE CORP.
128 FIRST STREET
PITTSBURGH, PA 15238

GENERAL INFORMATION: (412) 828-1500

EMERGENCY, CHEMTREC: 800-424-9300, Only in the event of chemical emergencies involving a spill, leak, fire, exposure or any accident involving chemicals. Outside USA: (703) 527-3887

REVISION DATE: February 27, 2008
PREPARED BY: Frederick F. Fischer, Jr.

2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS NUMBER	IDENTIFICATION	APP. % BY WGT.
26447-40-5	Diphenylmethane Diisocyanate (MDI)	5-15
101-68-8	4,4' Methylene Bis Phenol Isocyanate	35-45
9016-87-9	Polymeric Diphenyl Diisocyanate	20-30
103-71-9	Phenyl Isocyanate	< 5
Proprietary	Polyisocyanate based on MDI	20-30

3. HAZARDOUS IDENTIFICATION

HAZARDOUS POLYMERIZATION: Will Not Occur.

ROUTES OF EXPOSURE: Inhalation, Skin, Eyes and Ingestion.

IMMEDIATE EFFECTS:

INHALATION: Diisocyanate vapors or mists at concentrations above or below the TLV and PEL can irritate (burning sensation) the mucus membranes in the respiratory tract causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function.

SKIN CONTACT: Prolonged contact to skin can cause reddening, swelling, rash, itching, and in some cases skin sensitization. Contact with MDI can cause skin discoloration.

EYE CONTACT: Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury.

INGESTION: May cause irritation: Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

ACCUTE: Diisocyanate vapors or mists at concentrations above or below the TLV and PEL can irritate (burning sensation) the mucus membranes in the respiratory tract causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function.

CHRONIC: As a result of previous repeated overexposures of a single large dose, certain individuals may develop sensitization to diisocyanates (asthma-like symptoms). These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack. Sensitization can be permanent. Chronic overexposure to diisocyanates has also been reported to cause lung damage. Prolonged contact to skin can cause reddening, swelling, rash, itching, and in some cases skin sensitization. Prolonged vapor contact may cause conjunctivitis.

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4. FIRST AID MEASURES

GENERAL ADVICE:

- INHALATION:** Move to an area free of further exposure. **GET MEDICAL ATTENTION IMMEDIATELY.** Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening.
- SKIN CONTACT:** Immediately remove contaminated clothing and shoes. Wash off with soap and water. Use lukewarm water if possible. Wash contaminated clothing before reuse. For severe exposures, immediately get safety shower and begin rinsing. Get medical attention if irritation develops.
- EYE CONTACT:** Remove contact lenses. In case of contact flush eyes immediately with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that the eyelids are separated and that the eye is being irrigated, **GET MEDICAL ATTENTION.**
- INGESTION:** Do not induce vomiting. Wash mouth out with water. **GET MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.**
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5. FIRE FIGHTING MEASURES

- SUITABLE EXTINGUISHING MEDIA:** Foam, Carbon Dioxide, or dry chemical. If entering a confined area, use self-contained breathing apparatus and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots and gloves) If contact is likely change to full chemical resistant clothing with SCBA. If this will not provide sufficient fire protection, consider fighting from a remote location. Water is not recommended, but may be applied in large quantities as a fine spray when extinguishing agents are not available. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Do not use direct water stream, which may spread fire. Use water spray to cool containers and fire affected zone until fire is out. Move containers from fire area if this is possible without hazard.

During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include but are not limited to: nitrogen oxides, isocyanates, hydrogen cyanide, carbon monoxide, and carbon dioxide. Dense smoke is produced when it burns. At temperatures greater than 204 °C (400 °F) isocyanates can polymerize and decompose, which can cause pressure build up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire exposed containers. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Product reacts with water. This reaction may be violent. Reaction may produce heat or gases.

EXPLOSION DATA:

SENSITIVITY TO MECHANICAL IMPACT: Stable.

SENSITIVITY TO STATIC DISCHARGE: Stable.

6. ACCIDENTAL RELEASE MEASURES

- PRECAUTIONS FOR PERSONNEL:** Wear protective equipment (coat, pants, boots, eyewear and gloves). If TLV is exceeded wear SCBA equipment.
- ENVIRONMENTAL PRECAUTIONS:** Contain the spill to prevent spread into drains, sewers, water supplies, or soil. Collect material in open-head containers. Disposal should be made in accordance with Federal, State and Local regulations.

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PROCESS FOR CLEANING: Evacuate non-emergency personnel. Isolate the area and prevent access. Remove Ignition sources. Notify management. Put on protective equipment. Control source of leak. Ventilate. Contain the spill to prevent spread into drains, sewers, water supplies, or soil. Cover spilled area with suitable absorbent material (Kitty Litter, Oil-Dri, etc). Saturate absorbent material with neutralization solution and mix. Wait 15 minutes. Collect material in open-head containers. Repeat application of decontaminating solution, with scrubbing, followed by absorbent until surface is decontaminated.

Neutralization Solutions:

- (1) Colorimetric Laboratories INC (CLI) decontamination solution.
- (2) A mixture of 75% water, 20 % nonionic surfactant (e.g. Poly-Tergent SL-62, Tergitol TMN-10) and 5% n-propanol
- (3) A mixture of 90% water, 3-8% concentrated ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.

7. HANDLING AND STORAGE

HANDLING: Avoid direct contact with product. Do not breathe vapors, mists or dusts. Use adequate ventilation to keep airborne isocyanate levels below exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or exposure limit is exceeded. This material can produce an asthmatic sensitization. Individuals with lung or breathing problems or prior allergic reactions must not be exposed to vapor or mists. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling.

STORAGE: Store away from ignition sources and open flames. Store in tightly closed containers to prevent moisture contamination. Recommended to be stored between 18-30 °F (18-30 °C).

8. EXPOSURE RESTRICTIONS AND PERSONAL PROTECTION

MATERIALS WITH LIMITS THAT REQUIRE SUPERVISION:

CAS NUMBER	IDENTIFICATION	APP. % BY WGT.	NIOSH REL	VALUE	UNIT
26447-40-5	Diphenylmethane, Diisocyanate (MDI)	5-15	TWA	N/E	ppm
101-68-8	4,4' Methylene Bis Phenol Isocyanate	35-45	TWA	0.005	
9016-87-9	Polymeric Diphenyl Diisocyanate	20-30	TWA	N/E	
103-71-9	Phenyl Isocyanate	< 5	TWA	N/E	
Proprietary	Polyisocyanate based on MDI	20-30	TWA	N/E	

9. PHYSICAL PROPERTIES

ODOR: FRUITY

CHANGE OF STATE	VALUE/AREA	UNIT	METHOD
FREEZING POINT:	N/A	°C	
BOILING POINT:	208 (406)	°C (°F)	
FLASH POINT:	176 (350)	°C (°F)	TCC
IGNITION TEMPERATURE:			
SPECIFIC GRAVITY:	1.23	H ₂ O = 1	
% VOLATILE BY VOLUME:	Nil	%	
SOLUBILITY IN WATER:	Insoluble		
PH VALUE:	N/A		
VISCOSITY:		CPS	
FLAMMABLE LIMITS:	LEL N/A UEL N/A		
EVAPORATION RATE:	N/A	BUAC = 1	

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10. STABILITY AND REACTIVITY

STABILITY: Stable.
 CONDITIONS TO AVOID: Open Flame.
 MATERIALS TO AVOID: Strong oxidizing agents.
 DECOMPOSITION PRODUCTS: Carbon Monoxide, Carbon Dioxide and Oxides of Nitrogen.
 EYES: Remove contact lenses. In case of contact flush eyes immediately with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that the eyelids are separated and that the eye is being irrigated, **GET MEDICAL ATTENTION.**
 SKIN: Immediately remove contaminated clothing and shoes. Wash off with soap and water. Use lukewarm water if possible. Wash contaminated clothing before reuse. For severe exposures, immediately get safety shower and begin rinsing. Get medical attention if irritation develops.
 INHALATION: Move to an area free of further exposure. **GET MEDICAL ATTENTION IMMEDIATELY.** Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening.
 CONSUMPTION: Do not induce vomiting. Wash mouth out with water. **GET MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.**

11. TOXICOLOGICAL INFORMATION

<u>CAS NUMBER</u>	<u>IDENTIFICATION</u>	<u>DERMAL LD50</u>	<u>INAHALATION LC50</u>	<u>ORAL LD50</u>
26447-40-5	Diphenylmethane Diisocyanate (MDI)	N/E	490 mg/m ³ (rat)	> 2000 mg/m ³ (rat)
101-68-8	4,4' Methylene Bis Phenol Isocyanate	10,000 mg/kg (rabbit)	369 mg/m ³ (rat)	N/E
9016-87-9	Polymeric Diphenyl Diisocyanate	N/E	N/E	N/E
103-71-9	Phenyl Isocyanate	N/E	N/E	N/E
Proprietary	Polyisocyanate based on MDI	N/E	N/E	N/E

<u>CAS NUMBER</u>	<u>IDENTIFICATION</u>	<u>CARCINOGENICITY</u>		<u>TERATOGENICITY</u>	<u>MUTAGENICITY</u>
		<u>ACGIH</u>	<u>IARC</u>		
26447-40-5	Diphenylmethane Diisocyanate (MDI)	N/E	N/E	N/E	N/E
101-68-8	4,4' Methylene Bis Phenol Isocyanate	N/E	N/E	N/E	N/E
9016-87-9	Polymeric Diphenyl Diisocyanate	N/E	N/E	N/E	N/E
103-71-9	Phenyl Isocyanate	N/E	N/E	N/E	N/E
Proprietary	Polyisocyanate based on MDI	N/E	N/E	N/E	N/E

12. ECOLOGICAL INFORMATION

VOLATILE ORGANIC COMPOUNDS: 0 Grams Per Liter (g/l). 0 Pounds Per Gallon (lb/g).

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Disposal should be made in accordance with Federal, State and Local regulations.

14. TRANSPORT INFORMATION

SHIPPING CLASS: Not Regulated

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15. REGULATORY INFORMATION

SARA SECTION 302:

SARA (311,312) HAZARD CLASS:

SARA (313) CHEMICALS: 4,4' Methylene Bis Phenol Isocyanate

CERCLA: N/A

CPSC CLASSIFICATION:

HMIS: FLAMMABILITY: 1 REACTIVITY: 1 HEALTH: 2

NFPA: FLAMMABILITY: 1 REACTIVITY: 1 HEALTH: 2

CALIFORNIA PROPOSITION 65:

- A. This product contains a chemical known to the State of CA to cause birth defects or other reproductive harm.
 - B. This product contains a chemical known to the State of CA to cause cancer.
 - C. This product contains a chemical known to the State of CA to cause cancer and birth defects or other reproductive harm.
-

16. OTHER INFORMATION

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