

GFLEX® COMPONENT "A"

Version: 1

Preparation date: 2015-03-25

1. IDENTIFICATION

Product Name: GFLEX® COMPONENT "A"
Product Code: Not Applicable
SDS#: M-51
Recommended Use: Component used for producing Instapak® polyurethane foam
Uses Advised Against: Uses other than those identified are not recommended

Manufacturer, Importer, Supplier: Sealed Air Corporation (US)
 10 Old Sherman Turnpike
 Danbury, CT 06810
 Phone: 203-791-3500

Emergency Telephone Number: Chemtrec 800-424-9300

2. HAZARD(S) IDENTIFICATION

Classification of the substance or mixture:

Acute Toxicity: Inhalation	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/ Eye Irritation	Category 2B
Respiratory Sensitization	Category 1
Skin Sensitization	Category 1
Specific Target Organ Toxicity (Single Exposure) [Respiratory Tract Irritation]	Category 3

1=Highest severity 2=High severity 3=Low severity 4=Lowest severity



Signal Word:

Danger

Hazard Statements:

Harmful if inhaled.
 Causes skin and eye irritation.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause an allergic skin reaction.
 May cause respiratory irritation.

Precautionary statements:

Wear chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves. Wear eye or face protection. In case of inadequate ventilation wear respiratory protection. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention. 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 all local, regional, national and international regulations.

2. HAZARD(S) IDENTIFICATION

Health hazards not otherwise classified (HHNOC) - Not applicable
Physical hazards not otherwise classified (PHNOC) - Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Classified Ingredients:</u>	<u>CAS No.</u>	<u>Weight %</u>
Polymeric Diphenylmethane Diisocyanate (Polymeric MDI or PMDI)	9016-87-9	60-100
4,4'-Diphenylmethane diisocyanate	101-68-8	30-60

Exact percentages and CAS numbers are being withheld as trade secret information. Occupational exposure limits, if available, are listed in Section 8.

4. FIRST-AID MEASURES

Description of necessary first aid measures:

Eyes: IF IN EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin: IF ON SKIN: After contact with skin, wash immediately with plenty of warm soapy water: Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. An MDI study has demonstrated that a poly glycol-based skin cleanser (such as D-Tam™, PEG-400) or corn oil may be more effective than soap and water. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation: IF INHALED: Move exposed person to fresh air. Get medical attention immediately. Treatment is symptomatic for primary irritation or bronchospasm. If breathing is labored, oxygen should be administered by qualified personnel.

Ingestion: IF SWALLOWED: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Provided the patient is conscious, wash out mouth with water. Get medical attention if symptoms appear.

Most important symptoms/effects:

Eyes: Causes eye irritation. Adverse symptoms may include pain or irritation, watering, and redness.

Skin: Causes skin irritation. Adverse symptoms may include irritation and redness. May cause sensitization by skin contact. Animal studies have shown that respiratory sensitization can be induced by skin contact with known respiratory sensitizers including diisocyanates. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals.

Inhalation: Harmful if inhaled. May cause respiratory irritation. Adverse symptoms may include respiratory tract irritation, coughing, wheezing and breathing difficulties, and asthma. This product is a respiratory irritant and potential respiratory sensitizer. Repeated inhalation of vapor or aerosol at levels above the occupational exposure limit could cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. LC50 (rat): ca. 490 mg/m³ (4 hours): using experimentally produced respirable aerosol having aerodynamic diameter < 5 microns.

Ingestion: Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.

4. FIRST-AID MEASURES

Immediate medical attention and special treatment needed: Symptomatic and supportive therapy as indicated. Following severe exposure, medical follow-up should be monitored for at least 48 hours.

Aggravated Medical Conditions: Persons with pre-existing respiratory disorders may be more susceptible to irritating effects.

5. FIRE-FIGHTING MEASURES

Specific Methods: No special methods required.
Suitable Extinguishing Media: Foam, carbon dioxide (CO₂) or dry powder.
Specific Hazards: Containers with residual chemical may burst under intense heat or pressure. Due to reaction with water, a hazardous build-up of pressure could result if containers contaminated with moisture are sealed.

Special Protective Equipment for Fire Fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn.

Unsuitable Extinguishing Media: Water may be used in large quantities. Reaction between water and hot isocyanate may be vigorous. Contain run-off water with temporary barriers and keep fire exposed containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Evacuate area surrounding the spill and prevent further spillage, leakage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained. If the potential for airborne concentrations of MDI above the PEL exists, then respiratory protection should be worn (see Section 8).

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods and materials for containment and cleaning up: Absorb spillages onto sand, earth or any suitable adsorbent material. Leave to react for at least 30 minutes. Shovel into open-top drums, open containers or thick mil plastic bags for further decontamination. Wash the spillage area with water. Neutralize small spillages with decontaminant (5-10 % sodium carbonate, 0.2-2 % liquid detergent, water to make up to 100%). Remove and dispose of residues. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. HANDLING AND STORAGE

Handling: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not use this product. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material. Empty containers retain product residue and can be hazardous.

Storage: Store product in accordance with local regulations. Keep container tightly closed in a cool, well-ventilated place. Keep away from moisture. Due to reaction with water producing CO₂ gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Do not reseal contaminated containers. Use appropriate containment to avoid environmental contamination.

Aerosol Level (if applicable): Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Ingredient(s)	CAS#	OSHA-PEL	ACGIH-TLV
4,4'-Diphenylmethane diisocyanate (MDI)	101-68-8	0.02 ppm (Ceiling)	0.005 ppm (TWA)

Engineering Controls to Reduce Exposure: Use only with adequate ventilation. Use local exhaust ventilation if necessary to maintain levels below any recommended or statutory limits. Medical supervision of all employees who handle or come in contact with respiratory sensitizers is recommended. Personnel with a history of asthma-type conditions, bronchitis or skin sensitization conditions should not work with MDI based products. The Occupational Exposure Limits listed do not apply to previously sensitized individuals. Sensitized individuals should be removed from any further exposure.

Personal Protective Equipment:

Eye protection:	Safety glasses with side shields or goggles.
Hand protection:	Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves.
Skin and body protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed.
Respiratory protection:	Due to the low vapor pressure of this material, the PEL is not likely to be exceeded under normal conditions. If the material is heated or spilled in a confined area, respiratory protection should be worn. An approved air purifying respirator equipped with an organic vapor cartridge and a HEPA (P100) particulate filter may be used when an appropriate cartridge change-out schedule has been developed in accordance with the OSHA respiratory protection standard (29 CFR 1910.134). Where concentrations exceed the level for which an air-purifying respirator is effective, use a positive pressure, supplied air respirator.
Hygiene measures:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations are close to the workstation location.

Refer to the "Recommendations for the Safe Use and Handling of Instapak® Foam-in-Place Chemicals" bulletin before handling Instapak® chemicals for additional information.

9. PHYSICAL AND CHEMICAL PROPERTIES

<p>Physical State: Liquid Color: Dark brown Odor: Slightly aromatic (musty) Odor Threshold: Not available pH: Not available Melting Point/Freezing Points: Not available</p>	<p>Flammability (solid, gas): Not available Lower and upper explosive limits: Not available Vapor Pressure: <10⁻⁵ mm Hg at 25°C (PMDI) Vapor Density (Air = 1): Not available Relative Density: 1.24 at 25°C Solubility in Water: Not soluble. Reacts slowly to liberate CO₂. Partition coefficient: n- octanol/water: Not available Auto-Ignition temperature: >600°C Decomposition temperature: Not available Viscosity: Not available</p>
<p>Boiling/condensation point: 406°F (208°C) Flash point: 390°F (199°C) [Pensky-Martens Closed Cup] Evaporation rate: Not available</p>	

10. STABILITY AND REACTIVITY

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Stability: Stable at room temperature.

Possibility of Hazardous Reactions: Reaction with water (moisture) produces CO₂ gas. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents. PMDI is insoluble with and heavier than water and sinks to the bottom reacting slowly at the interface. A solid water-insoluble layer of polyurea is formed at the interface by liberating CO₂ gas.

Hazardous Decomposition Products: Highly unlikely under normal industrial use. Exposure to fire or extreme heat may generate oxides of carbon, oxides of nitrogen, and traces of hydrogen cyanide.

Materials to Avoid: Water, amines, strong bases, copper alloys, acids and alcohols.

Conditions to Avoid: Avoid high temperatures.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Eye contact, Skin contact, Inhalation, Ingestion.

Delayed, immediate, or chronic effects and symptoms from short and long-term exposure:

Eye Contact: Causes eye irritation. Adverse symptoms may include pain or irritation, watering, and redness.

Skin Contact: Causes skin irritation. Adverse symptoms may include irritation and redness. May cause sensitization by skin contact. Animal studies have shown that respiratory sensitization can be induced by skin contact with known respiratory sensitizers including isocyanates. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or in maintenance work.

Inhalation: Harmful if inhaled. May cause respiratory irritation. Adverse symptoms may include respiratory tract irritation, coughing, wheezing and breathing difficulties, and asthma. This product is a respiratory irritant and potential respiratory sensitizer: repeated inhalation of vapor or aerosol at levels above the occupational exposure limit could cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. LC₅₀ (rat): ca. 490 mg/m³ (4 hours): using experimentally produced respirable aerosol having aerodynamic diameter <5 microns.

Ingestion: Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.

Sensitization: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Numerical measures of toxicity:

LD₅₀ Oral: >10,000 mg/kg (rat)
 LD₅₀ Dermal: >9,400 mg/kg (rabbit)
 LC₅₀ Inhalation: 0.49 mg/l (rat)
 ATE - Inhalation 1.5 mg/l
 (dusts and mists)

Carcinogenicity:

Ingredient(s)	IARC	OSHA	NTP
4,4'-Diphenylmethane diisocyanate	3*	--	--
Polymeric Diphenylmethane Diisocyanate	3*	--	--

*Not classifiable as to its carcinogenicity to humans

12. ECOLOGICAL INFORMATION

Ecotoxicity:

<u>Endpoint (Exposure)</u>	<u>Species</u>	<u>Result</u>	<u>Endpoint (Exposure)</u>	<u>Species</u>	<u>Result</u>
EC50 (72 hours)	Algae	>1640 mg/l	LC50 96 hours	Fish	>1000 mg/l
EC50 (3 hours)	Bacteria	>100 mg/l	Chronic NOEC 21 days	Daphnia	>=10 mg/l
EC50 (24 hours)	Daphnia	>1000 mg/l	Chronic NOECr 72 hours	Algae	1640 mg/l
LC0 96 hours	Fish	>1000 mg/l			

Persistence and Degradability: Not biodegradable.

Bioaccumulation: Low potential.

Mobility in Soil: By considering the production and use of the substance, it is unlikely that significant environmental exposure in the air or water will arise. Immiscible with water, but will react with water to produce inert and non-biodegradable solids.

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations.

Contaminated Packaging: Do not re-use empty containers.

RCRA Hazard Class (undiluted product): Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

14. TRANSPORT INFORMATION

DOT: Single containers less than 5,000 pounds are not regulated.

TDG: Not regulated.

IMDG: Not regulated.

IATA: Not regulated.

DOT (Ground) Bill of Lading Description: Not regulated.

IMDG (Ocean) Bill of Lading Description: Not regulated.

15. REGULATORY INFORMATION

International Inventories at CAS# Level:

All components of this product are listed on the following inventories: U.S.A. (TSCA), Canada (DSL/NDSL).

U.S. Regulations:

California Proposition 65: This product is not subject to the reporting requirements under California's Proposition 65.

RIGHT TO KNOW (RTK):

<u>Ingredient(s)</u>	<u>CAS#</u>	<u>MARTK</u>	<u>NJRTK</u>	<u>PARTK</u>	<u>RIRTK</u>
4,4'-Diphenylmethane diisocyanate	101-68-8	X	X	X	X



15. REGULATORY INFORMATION

CERCLA/ SARA:

Ingredient(s)	CAS#	Weight %	CERCLA/SARA RQ (lbs.)	Section 302 TPQ (lbs.)	Section 313
4,4'-Diphenylmethane diisocyanate	101-68-8	50-55	5,000	None	Category Code N120
Polymeric Diphenylmethane Diisocyanate	9016-87-9	60-100	--	None	Category Code N120

Ingredient(s)	CAS#	CAA HAP	CAA ODS	CWA Priority Pollutants
4,4'-Diphenylmethane diisocyanate	101-68-8	X	--	--

SARA 311/312 Hazard Categories:

Immediate: X
Delayed: X
Fire: -
Reactivity: -
Sudden Release of Pressure: -

Canadian Regulations:

CEPA DSL: All components are listed or exempted.

16. OTHER INFORMATION

NFPA: Health: 2
Flammability: 1
Instability: 1
Special Hazard: None

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

Version Number: 1

Preparation date: 2015-03-25

SDS Code: M-51

Reason for revision: Not Applicable.

Prepared by: NAPCRA

Additional advice: Not applicable.

Notice to Reader: This document has been prepared using data from sources considered technically reliable. It does not constitute a warranty, expressed or implied, as to the accuracy of the information contained within. Actual conditions of use and handling are beyond seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.