Safety Data Sheet
MP-55
Part A

Coatings & Sealants

1. IDENTIFICATION

GHS Product Identifier: MP-55 Part A (Polyflex Part A)
Other Means of Identification: Aromatic Isocyanates; Diphenylmethane Diisocyanate Prepolymer
Product Code: 4
Recommended use and restrictions on use of the chemical: PU/Polyurea Elastomer Component
Supplier's Details:
Abatron, INC.
5501 95th Avenue
Kenosha, WI 53144
(262) 653-2000
Emergency Telephone number: CHEMTREC (USA)
1-800-424-9300

2. HAZARD(S) IDENTIFICATION

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

GHS Classification:
Acute Toxicity (Inhalation – Mist) – Category 4
Skin Corrosion/Irritation – Category 2
Eye Damage/Eye Irritation – Category 2B
Respiratory Sensitization – Category 1
Skin Sensitization – Category 1B
STOT SE – Category 3 (Irritating to Respiratory System)
STOT RE – Category 2 (By Inhalation)

GHS Label Elements, including precautionary statements:

Hazard Pictograms:

Signal Word: DANGER

Hazard Statements:
H332: Harmful if inhaled.
H315: Causes skin irritation.
H320: Causes eye irritation.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317: May cause an allergic skin reaction.
H335: May cause respiratory irritation.
H373: May cause damage to organs (Olfactory organs) through prolonged or repeated exposure (inhalation).

Precautionary Statements (Prevention):
P271: Use only outdoors or in a well-ventilated area.
P264: Wash with plenty of water and soap thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P284: In case of inadequate ventilation wear respiratory protection.
P272: Contaminated work clothing should not be allowed out of the workplace.
P260: Do not breathe dust/gas/mist/vapors.
P261: Avoid breathing mist.

Precautionary Statements (Response):
P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P303+352: IF ON SKIN (or hair): Wash with plenty of soap and water.
P332+313: If skin irritation occurs: Get medical advice/attention.
P362+364: Take off contaminated clothing and wash before reuse.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and east to do. Continue rinsing.
P337+311: If eye irritation persists: Call a POISON CENTER or doctor/physician.

P333+311: If skin irritation or rash occurs: Call a POISON CENTER or doctor/physician.
P314: Get medical advice/attention if you feel unwell.

Precautionary Statements (Storage): P405: Store locked up.
P403+233: Store in a well-ventilated place. Keep container tightly closed.

Precautionary Statements (Disposal): P501: Dispose of contents/container in accordance with federal, state and local environmental control laws.

Other hazards which do not result in classification or are not covered by the GHS: No specific dangers know, if the regulations/notes for storage and handling are considered

Labeling of special preparations (GHS): CONTAINS ISOCYANATES. INHALATION OF ISOCYANATES MISTS OR VAPORS MAY CAUSE RESPIRATORY IRRITATION, BREATHLESSNESS, CHEST DISCOMFORT AND REDUCED PULMONARY FUNCTION. OVEREXPOSURE WELL ABOVE THE PEL MAY RESULT IN BRONCHITIS, BRONCHIAL SPASMS AND PULMONARY EDEMA. LONG-TERM EXPOSURE TO ISOCYANATES HAS BEEN REPORTED TO CAUSE LUNG DAMAGE. INCLUDING REDUCED LUNG FUNCTION WHICH MAY BE PERMANENT. ACUTE OR CHRONIC OVEREXPOSURE TO ISOCYANATES MAY CAUSE SENSITIZATION IN SOME INDIVIDUALS, RESULTING IN ALLERGIC RESPIRATORY REACTIONS INCLUDING WHEEZING, SHORTNESS OF BREATH AND DIFFICULTY BREATHING. ANIMAL TESTS INDICATE THAT SKIN CONTACT MAY PLAY A ROLE IN CAUSING RESPIRATORY SENSITIZATION.

3. COMPOSITION/INFORMATION ON INGREDIENTS

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Weight %	Chemical Name
101-68-8	50 – 75 %	Diphenylmethane-4,4'-diisocyanate (MDI)
25686-28-6	15 – 20 %	Benzene, 1,1'-methylenebis[4-isocyanato-, homopolymer
26447-40-5	1 – 3 %	Methylenediphenyl diisocyanate

4. FIRST-AID MEASURES

Description of necessary measure, subdivided according to different routes of exposure:

General Measures: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. Remove contaminated clothing.

Eye Contact: IF IN EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure eyelids are separated and that the eye is being irrigated. Materials containing isocyanates may react with the moisture of the eye forming a thick material, which may be difficult to wash from eyes. Immediate medical attention required.

Inhalation: IF INHALED: Remove the affected individual to fresh air and keep the person calm. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by quality personnel. Immediate medical attention required.

Skin Contact: IF ON SKIN: Immediately remove contaminated clothing and shoes. Wash off with soap and water. Use lukewarm water if possible. Wash contaminated clothing before reuse and discard contaminated shoes. For severe exposures, immediately get under safety shower and begin rinsing. If redness, itching, or a burning sensation develops or persists after the area is washed, seek medical attention.

Ingestion: IF SWALLOWED: Do NOT induce vomiting. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Never give anything by mouth to an unconscious person or a person having convulsions. Immediate medical attention required.

Most important symptoms/effects, acute and delayed:

Symptoms: The most important known symptoms and effects are described in the labeling (see Section 2) and/or in Section 11. Eye irritation, skin irritation, allergic symptoms.

Hazards: Symptoms can appear later.

Hazards (Diphenylmethane-4,4'-diisocyanate (MDI): Respiratory sensitization may result in allergic (asthma-like) signs in the lower respiratory tract including wheezing, shortness of breath and difficulty breathing, the onset of which may be delayed. Repeated inhalation of high concentrations may cause lung damage, including reduced lung function, which may be permanent. Substance eliciting lower respiratory tract irritation may worsen the asthma-like reactions that may be produced by product exposures.

Indication of immediate medical attention and special treatment needed, if necessary:

Note to Physician: Antidote: Specific antidotes or neutralizers to isocyanates do not exist.

Treatment: Treatment should be supportive and based on the judgement of the physician in response to the reaction of the patient.

5. FIRE FIGHTING MEASURES

Extinguishing Media:

Suitable extinguishing media: Foam, Dry Powder, Carbon Dioxide, Water Spray

Unsuitable extinguishing media: None listed.

Special hazards arising from the chemical (e.g. nature of any hazardous combustion products):

Hazardous Decomposition Products: Nitrogen gases, fumes/smoke, isocyanate, vapor

Unusual Fire/Explosion Hazards: None listed.

Special protective equipment and precautions for fire-fighters:

Fire Fighting Procedures: Firefighters should be equipped self-contained breathing apparatus and turn-out gear.

Further Information: Keep containers cool by spraying with water if exposed to fire. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Spill and Leak Procedures: Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions: Do not discharge into drains/surface waters/groundwater.

Methods and materials for containment and cleaning up:

For Small Amounts: Absorb isocyanates with suitable absorbent material (see 40 CFR, sections 260, 264 and 265 for further information). Shovel into open container. Do not make container pressure tight. Move container to a well-ventilate area (outside). Spill are can be decontaminated with the following recommended decontamination solution: Mixture of 90% water, 8% concentrated ammonia, 2% detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide.

For Large Amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.

For Residues: The following measures should be taken for final cleanup. Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes. Dike spillage.

7. HANDLING AND STORAGE

Precautions for safe handling: Provide suitable exhaust ventilation at the processing machines. Ensure thorough ventilation of stores and work area. Avoid aerosol formation. When handling heated product, vapors of the product should be ventilated, and respiratory protection used. Wear respiratory protection when spraying. Danger of bursting when sealed gastight. Protect against moisture. If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.

Protection against fire and explosion: No explosion proofing necessary.

Conditions for safe storage, including any incompatibilities:

Substances to Avoid:	Segregate from bases.
Suitable Materials for Containers:	Carbon steel (Iron), high density polyethylene (HDPE), low density polyethylene (LDPE), stainless steel 1.4301 (V2).
Further Information on Storage Conditions:	Keep container tightly closed and in a well-ventilated place. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture. Formation of CO2 and build-up of pressure possible.
Storage:	Keep from freezing, store above 65 °F (18 °C)

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Diphenylmethane-4,4'-diisocyanate (MDI) (101-68-8)

Control Parameters:	OSHA PEL: CLV 0.02 ppm, 0.2 mg/m3 ACGIH TLV: 0.005 ppm (TWA Value)
Appropriate Engineering Controls:	Provide local exhaust ventilation to maintain recommended P.E.L.
Individual Protection Measures:	Respiratory Protection: When workers are facing concentrations above the occupational exposure limits they must use appropriate certified respirators. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place. For emergency or non-routine, high exposure situations, including confined space entry, use a NIOSH-certified full face-piece pressure demand self-contained breathing apparatus (SCBA) or a full face-piece pressure demand supplied-air respirator (SAR) with escape provisions. Hand Protection: Chemical resistant protective gloves should be worn to prevent all skin contact. Suitable materials may include, chloroprene rubber (Neoprene), nitrile rubber (Buna N), chlorinated polyethylene, polyvinylchloride (Pylox), butyl rubber, depending upon conditions of use. Eye Protection: Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists. Skin Protection: Cover as much of the exposed skin as possible to prevent all skin contact. Suitable materials may include, saran-coated material, depending upon conditions of use. General Safety and Hygiene Measures: Wear protective clothing as necessary to prevent contact. Eye wash fountains and safety shows must be easily accessible. Observe the appropriate PEL or TLV value. Wash soiled clothing immediately. Contaminated equipment or clothing should be cleaned after each use or disposed of.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Light Yellow
Odor:	Faintly Aromatic
Odor Threshold:	Not Applicable
pH:	Not Applicable
Freezing Point:	-4.00 °C
Boiling Point:	200.00 °C (5.000000 mmHg)
Sublimation Point:	No applicable information available.
Flash Point:	> 200.00 °C (open cup)
Flammability:	Not flammable.
Evaporation Rate:	Value can be approximated from Henry's Law Constant or vapor pressure
Lower Explosion Limit:	For liquids not relevant for classification and labelling. The lower explosion point may be 5 – 15 °C below the flash point.
Upper Explosion Limit:	For liquids, not relevant for classification and labelling.
Vapor Pressure:	25.00 °C (0.00001 mmHg)
Density:	25.00 °C (10.0000 lb/USg)
Relative Density:	No applicable information available.
Vapor Density:	Not applicable

Solubility in Water:	Reacts with water.
Miscibility with Water:	Reacts with water.
Solubility (quantitative):	No applicable information available.
Solubility (qualitative):	No applicable information available.
Partition Coefficient: n-octanol/water:	Unspecified
Auto-ignition Temperature:	470.00 °C
Self-ignition Temperature:	Based on it structural properties the product is not classified as self-igniting.
Thermal Decomposition:	No decomposition if stored and handled as prescribed/indicated.
Dynamic Viscosity:	25 °C (300.000 mPa.s)
Kinematic Viscosity:	No applicable information available
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. STABILITY AND REACTIVITY

Reactivity: Corrosion to metals: No corrosive effect on metal.
Oxidizing properties: Not an oxidizer.

Chemical Stability: The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions: Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalies. React with amines. Risk of exothermic reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.

Conditions to avoid: Avoid moisture.

Incompatible materials: Acids, amines, alcohols, water, alkalines, strong bases, substances/products that react with isocyanates

Hazardous decomposition products: Hazardous decomposition products: Carbon monoxide, carbon dioxide, nitrogen oxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapors

Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.

11. TOXICOLOGICAL INFORMATION

Various toxicological (health) effects and the available data used to identify those effects:

Primary routes of exposure: Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity: Assessment of acute toxicity: Inhalations of vapors may cause irritation of the mucous membranes of the nose, throat, or trachea, breathlessness, chest discomfort, difficult breathing and reduced pulmonary function. Inhalation exposure well above the PEL may result additionally in eye irritation, headache, chemical bronchitis, asthma-like findings or pulmonary edema. Isocyanates have also been reported to cause hypersensitivity pneumonitis, which is characterized by flu-like symptoms, the onset of which may be delayed.

Oral: Diphenylmethane-4,4'-diisocyanate (MDI)
Type of Value: LD50
Species: Rat (male/female)
Value: > 2,000 mg/kg (Directive 84/449/EEC. B.1)

Inhalation: Type of Value: LC50
Species: Rat (male/female)
Value: 2.0 mg/l (OECD Guideline 403)
An aerosol was tested.

Dermal: Diphenylmethane-4,4'-diisocyanate (MDI)
Type of value: LD50
Species: Rabbit (male/female)
Value: > 9,400 mg/kg

Assessment other acute effects: Assessment of STOT Single: Causes temporary irritation of the respiratory tract.

Irritation/Corrosion:

Assessment of irritating effects: Irritating to the eyes, respiratory system and skin. Skin contact may result in dermatitis, either irritative or allergic.

Skin:

Diphenylmethane-4,4'-diisocyanate (MDI)
Species: Rabbit
Result: Irritating
Method: Draize test

Eye:

Diphenylmethane-4,4'-diisocyanate (MDI)
Species: Rabbit
Result: Irritating
Method: Draize test

Sensitization:

Assessment of sensitization: Sensitization after skin contact possible. The substance may cause sensitization of the respiratory tract. As a result of previous repeated overexposure or a single large does, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the PEL/TLV. These symptoms, which include chest tightness, wheezing, cough, shortness of breath, or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanates has also been reported to cause lung damage, including a decrease in lung function, which may be permanent. Prolonged contact can cause reddening, swelling, rash, scaling, or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material, or even as a result of vapor-only exposure. Animal tests indicate that skin contact may play a role in causing respiratory sensitization.

Diphenylmethane-4,4'-diisocyanate (MDI)
Buehler test
Species: guinea pig
Result: sensitizing

Mouse Local Lymph Node Assay (LLNA)
Species: mouse
Result: sensitizing
Can cause skin sensitization

Other
Species: guinea pig
Result: sensitizing
Studies in animals suggest that dermal exposure may lead to pulmonary sensitization. However, the relevance of this result for humans in unclear.

Aspiration Hazards:

No aspiration hazard expected.

Repeated Dose Toxicity:

Assessment of repeated dose toxicity: The substance may cause damage to the olfactory epithelium after repeated inhalation. The substance may cause damage to the lung after repeated inhalation. These effects are not relevant to humans at occupational levels of exposure.

Diphenylmethane-4,4'-diisocyanate (MDI)
Experimental/calculated data: rat (Wistar) (male/female) Inhalation
2 yrs., 6hr/day 0, 0.2, 1, 6 mg/m3, olfactory epithelium
NOAEL: 0.2 mg/m3
LOAEL: 1 mg/m3
The substance may cause damage to the olfactory epithelium after repeated inhalation. These effects are not relevant to humans at occupational levels of exposure. Repeated inhalative uptake of the substance did not cause damage to the reproductive organs.

Genetic Toxicity:

Assessment of mutagenicity: The substance was mutagenic in various bacterial test systems; however, these results could not be confirmed in tests with animals.

Information on: Diphenylmethane-4,4'-diisocyanate (MDI): Genetic toxicity in vitro: OECD Guideline 471 Ames-test Salmonella typhimunum: with and without metabolic activation ambiguous

Information on: Diphenylmethane-4,4'-diisocyanate (MDI): Genetic toxicity in vivo: OECD Guideline 474 Micronucleus assay rat (male) Inhalation negative. No clastogenic effect reported.

Carcinogenicity:

Assessment of carcinogenicity: A carcinogenic potential cannot be excluded after prolonged exposure to severely irritating concentrations. These effects are not relevant to humans at occupational levels of exposure. IARC Group 3 (not classifiable as to human carcinogenicity).

Information on: Diphenylmethane-4,4'-diisocyanate (MDI)
Assessment of carcinogenicity: A carcinogenic potential cannot be excluded after prolonged exposure to severely irritating concentrations. These effects are not relevant to humans at occupational levels of exposure. IARC Group 3 (not classified as to human carcinogenicity).

Information on: Methylenediphenyl diisocyanate
Assessment of carcinogenicity: A carcinogenic potential cannot be excluded after prolonged exposure to severely irritating concentrations. These effects are not relevant to humans at occupational levels of exposure. IARC Group 3 (not classified as to human carcinogenicity).

Information on: (OLIGOMER) 4,4'-Methylenediphenyl diisocyanate, oligomers
Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests. However, the relevance of this result for humans is unclear.

Experimental/calculated data: OECD Guideline 453 rat Inhalation 0, 0.2, 1, 6 mg/m3
Result: Lung tumors

Reproductive Toxicity:

Assessment of reproduction toxicity: Repeated inhalative uptake of the substance did not cause damage to the reproductive organs.

Teratogenicity:

Assessment of teratogenicity: The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses that were toxic to the parental animals.

Development:

OECD Guideline 414 rat inhalation 0, 1, 4, 12 mg/m3
NOAEL Mat.: 4 mg/m3
NOAEL Teratog.: 4 mg/m3
The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses that were toxic to the parental animals.

Symptoms of Exposure:

The most important known symptoms and effects are described in the labelling (see Section 2) and/or in Section 11. Eye Irritation, skin irritation, allergic symptoms

Medical Conditions Aggravated by Overexposure:

The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing. Medical supervision of all employees who handle or come into contact with isocyanates is recommended. Contact may aggravate pulmonary disorders. Persons with history of respiratory disease or hypersensitivity should not be exposed to this product. Pre-employment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum) are suggested. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended.

12. ECOLOGICAL INFORMATION

Toxicity:

Aquatic Toxicity:	Assessment of aquatic toxicity: There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms. The product may hydrolyse. The test result maybe partially due to degradation products. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.
Toxicity to Fish:	LC0 (96 h): > 1,000 mg/l, Brachydanio rerio (OECD Guideline 203, static)
Aquatic Invertebrates:	EC50 (24 h): > 1,000 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
Aquatic Plants:	EC0 (72 h): 1,640 mg/l (growth rate), Scenedesmus subspicatus (OECD Guideline 201, static)

Microorganisms/Effects on Activated sludge:

Toxicity to microorganisms:	OECD Guideline 209 aquatic Aerobic bacteria from a domestic water treatment plant/EC50 (3 h): > 100 mg/l

Persistence and Degradability:

Assessment biodegradation and Elimination (H2O):	Poorly biodegradable. The product is unstable in water. The elimination data also refer to products of hydrolysis.
Elimination Information:	0% BOD of the ThOD (28 d) (OECD Guideline 302 C) (aerobic, activated sludge) poorly biodegradable.
Assessment of stability in water:	In contact with water the substances will hydrolyse slowly.
Information on stability in water (Hydrolysis):	$t_{1/2}$ 20 h (25 °C)

Bioaccumulative Potential:

Assessment bioaccumulation potential:	Significant accumulation in organisms is not be expected.
Bioaccumulation potential:	Bioconcentration factor: 200 (28 d), Cyprinus carpio (OECD Guideline 305 E)

Mobility in Soil:

Assessment transport between environment compartments:	The substance will not evaporate into the atmosphere from the water surface. Absorption to solid soil phase is not expected.

13. DISPOSAL CONSIDERATION

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

Waste Disposal Method:	Incinerate or dispose of in a licensed facility. Do not discharge substance/product into sewer system.
Container Disposal:	Drums: Steel drums must be emptied and can be sent to a licensed drum re-conditioner for reuse, a scrap metal dealer or an approved landfill. Do not attempt to refill or clean containers since residue is difficult to remove. Under no circumstances should empty be burned or cut open with gas or electric torch as toxic decomposition products may be liberated. Do not reuse empty containers.

14. TRANSPORTATION INFORMATION

Land Transport (US DOT):	Not classified as a dangerous good under transport regulations.
Sea Transport (IMDG):	Not classified as a dangerous good under transport regulations.
Air Transport (IATA/ICAO):	Not classified as a dangerous good under transport regulations.

Additional Transportation Information: DOT: This product is regulated if the amount in a single receptacle exceeds the Reportable Quantity (RQ). Please refer to Section 15 of this SDS for the RQ for this product.

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question:

US. Toxic Substances Control Act: Released/Listed

EPCRA 311/312 Hazard: Acute, Chronic

EPCRA 313: Diphenylmethane-4,4'-diisocyanate (MDI) CAS# 101-68-8

CERCLA RQ: 5,000 lbs. (RQ): Diphenylmethane-4,4'-diisocyanate (MDI) CAS# 101-68-8

State Regulations:

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

CAS Number	Weight Percentage	Chemical Name	State
26447-40-5	1 - 3 %	Generic MDI	NJ
101-68-8	50 - 75 %	Diphenylmethane-4,4'-diisocyanate (MDI)	MA, NJ, PA

16. OTHER INFORMATION

NFPA:	Health: 2	Fire: 1	Reactivity: 1	Specific Hazard:
HMIS III:	Health: 2*	Flammability: 1	Physical Hazard: 1	

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DISCLAIMER:

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ALL MATERIALS PRESENT UNKNOWN HAZARDS AND SHOULD BE USED WITH CAUTION. ALTHOUGH CERTAIN HAZARDS ARE DESCRIBED HEREIN, WE CANNOT GUARANTEE THAT THESE ARE THE ONLY HAZARDS THAT EXIST. ALL INFORMATION IS BEING GIVEN AND ACCEPTED AT YOUR OWN RISK.

END OF SAFETY DATA SHEET

Safety Data Sheet
MP-55
Part B
Color: BLACK

Coatings & Sealants

1. IDENTIFICATION

GHS Product Identifier: MP-55 Part B (Polyflex Part B)
Color: Black

Other Means of Identification: Not Applicable

Product Code: 20

Recommended use and restrictions on use of the chemical: PU/Polyurea Elastomer Component

Supplier's Details:
Abatron, INC.
5501 95th Avenue
Kenosha, WI 53144
(262) 653-2000

Emergency Telephone number: CHEMTREC (USA)
1-800-424-9300

2. HAZARD(S) IDENTIFICATION

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200
**This mixture has not been tested as a whole. The effects, listed below, are based on evaluation of individual components.

GHS Classification:
Acute Toxicity – Category 4 (Oral)
Skin Sensitization – Category 1
Hazardous to the Aquatic Environment (Acute) – Category 1
Hazardous to the Aquatic Environment (Chronic) – Category 1

GHS Label Elements, including precautionary statements:

Hazard Pictograms:

Signal Word: WARNING

Hazard Statements:
H302: Harmful if swallowed.
H317: May cause an allergic reaction.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):
P264: Wash face, hands and any exposed skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
P272: Contaminated work clothing should not be allowed out of the workplace.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P273: Avoid release to the environment (if this is not the intended use).

Precautionary Statements (Response):
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330: Rinse mouth.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P333+313: If skin irritation or rash occurs: Get medical advice/attention.
P321: Specific treatment (see First Aid section of SDS).
P362+364: Take off contaminated clothing and wash it before reuse.
P391: Collect spillage.

Precautionary Statements (Storage): None Listed

Precautionary Statements (Disposal): P501: Dispose of contents/container in accordance with federal, state, and local environmental control laws.

Other hazards which do not result in classification or are not covered by the GHS: May be harmful in contact with skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Mixture

CAS Number	Weight Percentage	Chemical Name
106264-79-3	10 – 30 %	Aromatic Diamine
1333-86-4	1 – 5 %	Black Dispersion

** The specific chemical identity and/or exact percentage (concentrations) of composition has been withheld as a trade secret. There are no additional ingredients present which, within the current knowledge of the supplier and in concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. FIRST-AID MEASURES

Description of necessary measure, subdivided according to different routes of exposure:

General Measures: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. Remove contaminated clothing.

Eye Contact: IF IN EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Remove contact lenses (if present and east to do) and continue flushing for at least 15 minutes. Use fingers to ensure eyelids are separated and that the eye is being irrigated. Seek medical attention/advice.

Inhalation: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Assist in breathing if necessary. Immediate medical attention required.

Skin Contact: IF ON SKIN: Remove affected clothing and shoes and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash contaminated clothing before reuse. Clean shoes thoroughly before reuse. If redness, itching, or a burning sensation develops or persists after the area is washed, seek medical attention.

Ingestion: IF SWALLOWED: Do NOT induce vomiting. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Never give anything by mouth if the victim is unconscious or having convulsions. Call a POISON CENTER or doctor/physician if you feel unwell.

Most important symptoms/effects, acute and delayed: No information available.

Indication of immediate medical attention and special treatment needed, if necessary:

Note to Physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media:

Suitable extinguishing media: Foam, Dry Chemical, Carbon Dioxide, Water Spray (mist)

Unsuitable extinguishing media: Do not use a heavy water stream.

Special hazards arising from the chemical (e.g. nature of any hazardous combustion products):

Hazardous Decomposition Products: Oxides of carbon and nitrogen. Oxides of Sulphur.

Unusual Fire/Explosion Hazards: In case of fire and/or explosions, do not breathe fumes.

Special protective equipment and precautions for fire-fighters:

Fire Fighting Procedures: As in any fire, wear self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal Precautions: Ensure adequate ventilation, especially in confined areas. Avoid contact with the skin and eyes. Use personal protective equipment. See Section 8 for more information.

Environmental precautions: Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

Methods and materials for containment and cleaning up:

Methods for containment: Contain spills with an inert absorbent material such as soil, sand or oil dry.

Methods for cleaning up: Soak up spills with inert absorbent materials. Collect spillage. Store away from other materials. Dispose of according to local, state and federal regulations.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not eat drink, or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety practices. Avoid contact with eyes, skin and clothing. Use with adequate ventilation. Do not breathe dust, fumes, gas, mist spray, vapors. Put on appropriate personal protective equipment (see section 8 of SDS).

Conditions for safe storage, including any incompatibilities:

Storage: Containers should be tightly sealed to prevent contamination with foreign materials and moisture. Store in accordance with local regulations. Keep in a well-ventilated place. Material is hygroscopic and may absorb small amount of atmospheric moisture. Avoid extreme heat.

Materials to avoid: Strong bases. Strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: Carbon Black (1333-86-4)
ACGIH TLV: TWA 3mg/m3 inhalable fraction
OSHA: TWA: 3.5mg/m3

Appropriate Engineering Controls: Showers
Eyewash stations.
Ventilation systems.

Individual Protection Measures: Respiratory Protection: A NIOSH approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirator is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Hand Protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Eye Protection: Wear appropriate protective glasses or splash goggles as describes by 29 CFR 1910.133, OSHA eye and face protection regulations.

Skin Protection: Wear chemical resistant footwear and clothing such as gloves, an apron or a whole body suit as appropriate.

Other Information: Do not eat, drink or smoke during use. Handle in accordance with good industrial hygiene and safety practice. Avoid inhalation of vapors/mists. Wash hands before break and at the end of work.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Color:	Black
Odor:	Organic faint resin odor.
Odor Threshold:	Not information available.
pH:	No information available.
Melting Point/Freezing Point:	No information available.
Boiling Point:	No information available.
Flammability:	No information available.
Lower Explosion/Flammability Limit:	No information available.
Upper Explosion/Flammability Limit:	No information available.
Flash Point:	> 94 °C
Auto-ignition Temperature:	No information available.
Decomposition Temperature:	No information available.
Kinematic Viscosity:	No information available.
Solubility:	Soluble
Partition coefficient: n-octanol/water (log value):	No information available.
Vapor Pressure:	No information available.
Specific Gravity:	No information available.
Relative Vapor Density:	No information available.
Particle characteristics:	No information available.

10. STABILITY AND REACTIVITY

Reactivity:	No data available.
Chemical Stability:	Stable under normal conditions.
Possibility of hazardous reactions:	No hazardous reaction expected under normal handling.
Conditions to avoid:	Keep away from humidity. Extremely high or low temperatures. Do not inhale smoke when burning and extreme high temperatures. Direct sunlight.
Incompatible materials:	Strong acids. Strong bases. Strong oxidizing agents. Avoid freezing and excessive heat.
Hazardous decomposition products:	Carbon monoxide. Carbon dioxide. Nitrogen oxides. Sulphur Oxides.

11. TOXICOLOGICAL INFORMATION

Aromatic Diamine (106264-79-3)

Likely routes of exposure:	Inhalation: Not irritating Eye Contact: Not irritating Skin Contact: Irritating to Skin. Ingestion: Harmful if swallowed.
Skin Corrosion:	Irritating to skin.
Serious eye damage/irritation:	Not irritating.
Respiratory Irritation:	Not irritating.
Skin sensitization:	Maximization Test. (guinea pig): Not sensitizing.
Mutagenic Effects:	Ames Test: Positive and negative results obtained. In vitro mutagenicity test: Not genotoxic in mammalian cell systems Mouse micronucleus test: Negative.
Carcinogenicity:	There are no know carcinogenic chemicals in this product.
Reproductive toxicity:	None known.
STOT – Single Exposure:	No information available.
STOT – Repeated Exposure:	No information available.
Chronic Effects:	Rats given this product in the diet for up to 90 days showed increased liver metabolic activity. There were kidney effects observed that were unique to make rates. These effects were similar to changed that have been observed in male rate given hydrocarbons. These effects resolved in animals allowed for 30 days recovery. Rats treated for 24 months did not have microscopic alterations in any tissues compared to control animals. Tumors seen in control and treated animals were usual for the age and strain of rats.
Aspiration hazard:	No information available.
Numerical measures of toxicity:	Product information: No information available.

ATEmix (oral): 379 mg/kg (calculated based on 3.1 of the GHS)
ATEmix (dermal): 2,063 mg/kg (calculated on 3.1 of the GHS)
LD50 Oral: Rat Oral LD50: 1,515 mg/kg (rat)
LD50 Dermal: Rabbit Dermal LD50: > 2,000 mg/kg (rabbit)

Carbon Black (1333-86-4)

Skin Corrosion:	Irritating to skin.
Serious eye damage/irritation:	Irritating to eyes.
Respiratory or skin sensitization:	No information available.
Germ cell mutagenicity:	No information available.
Carcinogenicity:	IARC Group 2B ACGIH: A3
Reproductive toxicity:	No information available.
STOT – Single Exposure:	No information available.
STOT – Repeated Exposure:	No information available.
Aspiration hazard:	No information available.

12. ECOLOGICAL INFORMATION

Aromatic Diamine (106264-79-3)

Ecotoxicity:	Very toxic to aquatic life with long lasting effects. LC50/96h/rainbow trout: 7.3 mg/L EC50/48h/daphnia: 0.9 mg/L EC50/72h/algae: (Salenastrum capricornutum): 7.6 mg/L
Persistence and degradability:	Not readily biodegradable (OECD 310 D).
Bioaccumulative potential:	No information available.
Mobility in soil:	No information available.
Other adverse effects:	May cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATION

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

Waste Disposal Method:	Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to a hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.
Waste Materials:	Avoid release to the environment. Do not reuse container.

14. TRANSPORTATION INFORMATION

Land Transport (DOT):	Not regulated in transportation.
Transport by Sea (IMDG/IMO):	Not regulated in transportation.
Air Transport (IATA/ICAO):	Not regulated in transportation.

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question United States Federal Regulations:

US. Toxic Substances Control Act:	All ingredients listed on TSCA Inventory.
EPCRA 311/312 Hazard:	Acute, Chronic
EPCRA 313:	None listed.
Reportable and Threshold Planning Quantitates:	This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

RCRA (40 CFR 261): Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste.

State Right-To Know Information:

This product contains the following Proposition 65 chemicals.

Chemical Name	California Prop 65
Carbon Black (1333-86-4)	Carcinogen

16. OTHER INFORMATION

Date of issue: 10/26/2016
Date of previous issue: 07/29/2016
Version: 3.0

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END OF SAFETY DATA SHEET