

**MATERIAL SAFETY DATA SHEET
FLECKS BINDER PART A
EMERGENCY CONTACT NUMBER
CHEMTREC 24 HOURS 1-800-424-9300**

1. Chemical Product and Company Identification:

Supplier:

WM Polymers, L.L.C.
885 Bangert Blvd
Toms River, NJ 08753
Phone: (848) 240-7062
Fax: (848) 227-3266

Product Name: FLECKS ® Binder Part A

Product Code: FLECKS Binder Part A

Chemical Family: Fatty Acid Ester

Chemical Name: N/A

CAS # Mixture

2. Composition/ Information on Ingredients:

<u>COMPONENTS</u>	<u>CAS #</u>	<u>WEIGHT %</u>
FLECKS BINDER A	Not Disclosed	100%

3. HAZARDS IDENTIFICATION

Emergency Overview:

Clear yellow liquid with mild characteristic odor. Not expected to present a significant hazard if spilled or involved in a fire.

Breathing:

Single exposure to vapors or mist is not likely to be hazardous.

Skin Contact:

Prolonged/repeated contact may cause irritation in some individuals.

Eye Contact:

Contact with eyes may cause slight eye irritation.

Swallowing:

Not expected to be toxic ingestion.

Long Term Health Effects:

Not known

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Conditions Aggravated by Exposure:

Not known

4. Physical/Chemical Characteristics:

Appearance: Straw to Amber liquid

Odor: Not available.

Specific Gravity: 0.99 g/cm³ @ 77°F

Solubility in Water: Nil

% Volatile by Weight: N/A

Boiling Point: N/A

Melting/Freezing Point: N/A

Viscosity: 500 – 2500 cP @ 77°F

Evaporation Rate (relative to n-Butyl Acetate): slower

5. Fire and Explosion Data:

Flash Point: >485°F (Pensky-Martin CLO Method)

Flammability Limits..... (%): Lower N/A.....upper N/A

Auto ignition Temperature: N/A

Extinguishing Media: Use water fog, alcohol foam, CO² or dry chemical extinguishing media.

Fire Fighting Procedures: Evacuate area and fight fire from safe distance. As appropriate, wear pressure demand, self-contained breathing apparatus (MSHA/NIOSH-approved or equivalent) and full protective clothing.

Specialty Firefighting Procedures: Can burn in fire releasing toxic vapors. As with any fire, toxic vapors and fumes may be generated. Use protective clothing and breathing equipment appropriate for the surrounding fire. As appropriate, wear pressure-demand self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.

Unusual Fire and Explosion Hazards: None expected

Sensitivity to Explosion: None expected by mechanical impact or static discharge.

Conditions of Flammability: Material may burn, but does not ignite readily. Avoid high temperatures.

6. Stability & Reactivity Data:

Stability Data: Stable

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Incompatibility: Can react vigorously with oxidizing materials.

Conditions/Hazards to Avoid: Keep from contact with oxidizing materials.

Hazardous Decomposition or byproducts: Products of incomplete combustion may include CO, CO₂, and dense smoke.

Hazardous Polymerization: Note prone to hazardous polymerization

Strong Oxidizer: No

Other Reactivity Data: N/A

7. First Aid Measures:

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation and eye contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

First Aid Procedures- Skin:

Wash affected areas with soap and water. Remove and launder contaminated clothing before reuse. Get medical attention if irritation develops.

First Aid Procedures-Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, holding eyelids apart. Get medical attention if irritation or other symptoms occur.

First Aid Procedures-Ingestion:

If swallowed, dilute with water and immediately induce vomiting. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. Get immediate medical attention.

First Aid Procedures-Inhalation:

No specific treatment is necessary since the material is not likely to be hazardous by inhalation. If exposed to excessive levels of vapor or mists, move to fresh air. Aid in breathing, if necessary, and get medical attention if cough or other symptoms develop.

8. Exposure Controls / Personal Protection:

Exposure Levels: Not established.

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control sources of dust, mist or vapor.

Respiratory Protection: Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use a positive pressure air supplied respirator for uncontrolled releases or when air purifying respirator limitations

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may be exceeded. Follow respiratory protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.

Eyes/Face Protection: Use safety glasses. Where contact with eyes is likely, use chemical goggles. Use a face shield as needed.

Skin Protection: Use impervious gloves. Use clean protective body-covering clothing as needed to minimize contact with clothing and skin.

9. Accidental Release Measures:

General: Minimize entry of material into sewers and drainage systems. Refer to permit discharge limitations if applicable. Isolate spill area, preventing entry by unauthorized persons. Prevent skin/eye contact.

Small Spill: Absorb spill with inert material (e.g., dry sand, earth). Place in a approved chemical waste container.

Large Spill: Shut off leak, if safe to do so. Clean up spills immediately, observing precautions in Protective Equipment section. Contain spilled liquid with sand or earth. Retain all contaminated water for removal and treatment.

10. Disposal Considerations:

General: Spills should be contained, solidified and placed in suitable containers for disposal at a licensed facility.

Waste Disposal: Dispose of in accordance with all federal, state, and local regulations.

Container Disposal: Dispose of in accordance with all federal, state, and local regulations.

9. Storage and Handling:

General: Use with adequate ventilation. Avoid contact with skin and eyes. Wash thoroughly after handling. Follow all MSDS/label precautions even after container is emptied because it may retain product residues.

Other Storage and Handling Data: No Keep container closed when not in use.

11. Toxicological Information:

Toxicology:
Oral LD50, rat; N/A

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Eye irritation, rabbit, N/A
Skin irritation, rabbit; N/A
48-hour human patch test; N/A

12. Ecological Information:

Ecotoxicological Information: Not available.

Chemical Fate: Not available.

13. Transport Information:

DOT Shipping Name: Not regulated

Hazardous Class Priority:
Secondary

Packing Group:

UN/NA No.:

DOT Labels:

Subsidiary Label:

DOT Placards:

IMO Shipping Name: Not Regulated

Hazard Class:

Packing Group:

UN No.:

IMO Labels:

Subsidiary Label:

IATA Shipping Name: Not Regulated

Hazard Class:

Packing Group:

UN No.:

IATA Labels:

Subsidiary Labels:

14. Regulatory Information:

SARA 311/312 Chronic Health Hazard: No

SARA 311/312 Acute Health Hazard: No

SARA 311/312 Fire Hazard: No

SARA 311/312 Sudden Pressure: No

SARA 311/312 Reactivity Hazard: No

Section 302 Extremely Hazardous:
CAS# Weight % TPQ

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Ingredients:

None

CERCLA Hazardous Substances:

CAS# Weight % TPQ

Ingredients:

None

Section 313 Toxic Chemicals:

CAS# Weight % TPQ

Ingredients:

None

NJ Environmental Hazardous Substance List:

CAS# Weight % TPQ

Ingredients:

None

California Proposition 65 Ingredients:

CAS# Weight % TPQ

Ingredients:

None

15. Regulatory Information:

<u>Product</u>	<u>TSCA</u>	<u>EINECS # and Substance Name</u>	<u>DSL</u>	<u>WHMIS Classification</u>
FLECKS BINDER PART A	Listed	Listed	Listed on the Non-Domestic Substances List – subject to the reporting requirements of the New Substances Notification Regulations.	Not Controlled

Note 1: Meets PMN exemption for polymer requirements under TSCA

16. Other Information:

Hazard Ratings:

Hazard	Health	Fire	Reactivity	Specific
HMIS	1	1	0	N/A
NFPA Hazard Rating:	1	1	0	None

NOTE:

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of WM Polymers. The data on this sheet relates only to the specific material designated herein. WM Polymers assumes no legal responsibility for the use of reliance upon this data.

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1. Chemical Product and Company Identification:

Supplier:

WM Holdings, Inc dba WM Polymers
885 Bangert Blvd
Toms River, NJ 08757
Phone: (848) 240-7062
Fax: (732) 608-7657

Transport Emergency:

Call CHEMTREC: 800-424-9300
International: 703-527-3887

Non-Transportation:

Emergency Phone: Call Chemtrec
Information Phone: 800-662-2927

Product Name: FLECKS® Binder Part B

Product Code: FLECKS Binder Part B

Chemical Family: Aliphatic Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)

Use: Raw material for coatings, adhesives, sealants or elastomers in industrial applications

Restrictions on use: Do-it-Yourself Applications, Not for use in medical applications.

2. Composition/ Information on Ingredients:

*******HAZARDOUS INGREDIENTS*******

Dicyclohexylmethane-4-4'-Diisocyanate

OSHA	.01 ppm ceiling*
	.11 mg/m3 ceiling*
ACGIH	.005 ppm TWA
	.054 mg/m3

- These limits are based on those promulgated by the 1989 OSHA Air Contaminants Standard 29CFR1910.1000

1. Hazardous Identification:

Emergency Overview:

Danger! Toxic; Color: colorless to yellow; Form: Liquid; Odor: Odorless; May cause eye, skin, and respiratory tract irritation; May cause allergic respiratory reaction; Harmful if inhaled; Skin sensitizes; May cause allergic skin

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reaction; Harmful if swallowed; May cause lung damage; Toxic gases/fumes are given off during burning or thermal decomposition; Closed container may explode under extreme heat. Toxic gases/fumes may be given off during burning or thermal decomposition. Closed container may forcibly rupture under extreme heat or when contents have been contaminated with water. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Causes skin irritation. May cause allergic skin reaction. Skin sensitizer. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction. Cause eye irritation. May cause lung damage.

Potential Health Effects:

Routes of Entry: Skin Contact, Inhalation of vapors and mist, Eye Contact.

Human Effects and Symptoms of Exposure:

Acute Inhalation:

Inhalation of vapors and mist of dicyclohexylmethane-4-4'-diisocyanate at concentrations above TLV can irritate the mucous membranes in the respiratory tract causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function. Person with pre-existing nonspecific bronchial hyperactivity can respond to concentrations below intended TLV may lead to bronchitis, bronchial spasm, and pulmonary edema. These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms has also been reported. Diisocyanate vapors or mist at concentration above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Person with a pre-existing, nonspecific bronchial hyper reactivity can respond to concentrations below the TLV or PEL may lead to bronchitis, with flu-like symptoms (e.g., fever chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Chronic Inhalation:

As a result of previous repeated overexposures or a single large dose, 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 TLV. These symptoms can include tightness, wheezing, cough, shortness of breath, or asthmatic attack. These symptoms may occur immediately or up to several hours after exposure. Certain individuals may develop sensitization to diisocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to diisocyanates at levels well below the TLV or PEL. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Extreme asthmatic

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reactions can be life threatening. 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 or several years. Sensitization can be permanent. Chronic overexposure to diisocyanates has also been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.

Acute Skin Contact:

Dicyclohexylmethane-4-4' –diisocyanate is a primary skin irritant—it reacts with skin protein and moisture and can cause irritation. Symptoms of skin irritation can include: redness, swelling, rash, scaling, or blistering.

Dicyclohexylmethane-4-4' –diisocyanate is also a potent skin sensitizer. Experience indicates that direct skin contact is the route of exposure most likely to cause sensitization. Once sensitized, an individual may react to even airborne levels below the TLV with the following symptoms: itching and tingling of the earlobes and neck, rash, hives, swelling of the arms and legs or other symptoms common to allergic dermatitis. These symptoms may be immediate or delayed several hours. Moreover, causes irritation with symptoms of reddening, swelling, and can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

Chronic Skin Contact:

Prolonged contact with the Isocyanate 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 have indicated that respiratory sensitization may result from skin contact with dicyclohexylmethane-4-4' –diisocyanate. Once sensitized, an individual may react to direct skin contact or even to airborne levels below the TLW with reddening, swelling, rash and in severe cases blistering and hives. These symptoms may be immediate or delayed several hours. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Acute Eye Contact:

Liquid, vapors, and mist of this product are irritating and can cause tearing, reddening, and swelling of the eyes possibly accompanied by a stinging sensation. Irritation with symptoms of reddening, itching, and swelling can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

Chronic Eye Contact:

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Prolonged vapor contact may cause conjunctivitis.

Acute Ingestion:

Can result in irritation and possible corrosive action in the mouth, stomach, and digestive tract. May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Chronic Ingestion:

None found

Carcinogenicity:

This product is not listed by NTP, IARC, or regulated as a carcinogen by OSHA.

Medical Conditions:

Aggravated by exposure: Skin allergies, asthma and any other respiratory disorders, eczema.

2. First Aid Measure:

First Aid for Eyes:

Flush with clean, lukewarm water for at least 15 minutes while lifting eyelids. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Then remove contact lenses, if easily removable, and continue eye irrigation. Refer individual to physician or ophthalmologist for immediate follow-up.

First Aid for Skin:

Remove contaminated clothing immediately. Wash skin promptly and thoroughly with soap and water. After washing, cover affected skin with polyethylene glycol and wash again immediately with soap and water to remove residue. Repeat if necessary. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing. Seek medical attention if irritation or allergic dermatitis develops, or if gross exposure occurs.

First Aid for Ingestion:

Do not induce vomiting. Give 1 to 2 cups of milk or water to drink. Do not give anything by mouth to an unconscious or convulsing person. Consult physician.

3. Fire Fighting Measures:

Flash Point: 300 F

Lower Explosive Limit: N.A.

Upper Explosive Limit: N.A.

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Auto ignition Temperature: N.A.

Extinguishing Media: CO₂, Dry Chemical, Foam, Water, and Fog.

Unusual Fire and Explosion Hazards:

Combustible liquid – OSHA Class IIIB. Moisture contamination or exposure to excessive heat can cause polymerization to occur, during which heat and carbon dioxide are generated. Do not reseal contaminated containers; sufficient pressure may build up to cause sealed containers to rupture. “Empty containers retain product residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electrically, or other sources of ignition. Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner or otherwise properly disposed of. Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO₂ formed). Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Larger fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous.

Special Firefighting Procedures:

As in any fire, firefighters should wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Containers can build up pressure if exposed to heat (fire). Use water spray to cool containers exposed to fire conditions.

4. Accidental Release Measures:

Steps To Be Taken In Case Material Is Released Or Spilled:

Properly protected personnel (see section 6 for respiratory and other protection guidelines) should contain the spill. Floor may be slippery. Use care to avoid falling.

- i. Ventilate the spill area.
- ii. Prepare a decontamination solution of 0.2-0.5% liquid detergents and 3-8% concentrated ammonium hydroxide in water (5-10% sodium carbonate may be substituted for ammonium hydroxide).
- iii. Treat the spill area with the decontamination solution, using about ten parts solution for each part of spilled material.
 - a. Allow to react for at least ten minutes. (Carbon dioxide will be evolved, leaving insoluble polyureas.
 - b. Dike and collect water and residue for disposal.

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5. Handling and Storage:

Storage Temperature: (Min/Max) 77 F (25 C)/ 122 F (50 C)

Shelf Life: 6 months

Special Sensitivity:

If Container is exposed to temperatures above 122 F (50 C), such as a free fire situation, it can be pressurized and could possibly rupture explosively. Dicyclohexylmethane-4-4' -diisocyanate reacts slowly with water to form CO₂ gas. This gas can cause sealed containers to expand and possibly rupture explosively.

Handling/Storage Precautions:

Store in tightly closed containers to prevent moisture contamination. Do not reseal container if contamination is suspected. Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. At maximum storage temperatures noted, material may slowly polymerize without hazard. Ideal storage temperature range is 86-104 F (30-40 C). Avoid contact with skin and eyes.

Other Notes:

If dicyclohexylmethane-4-4' -diisocyanate is stored for prolonged periods at or below a temperature of 77 F (25 C), crystallization and setting of the isomer may occur. Storage in a cold warehouse can cause crystals to form. These crystals can settle to the bottom of the container. If crystals do form, they can be melted easily with moderate heat (e.g. in a well ventilated oven). It is suggested that a container the size of a drum be warmed for 16-24 hours at 104-122 F (40-50 C). When the crystals are melted, the container should be agitated by rolling or stirring, until the contents are homogenous. Since heated dicyclohexylmethane-4-4' -diisocyanate (104-122 F (40-50 C)) will generate vapors more rapidly than products at 77 F (25 C), be sure to follow the precaution under the Personal Protection Section of this MSDS whenever opening a heated container.

6. Exposure Controls/Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower. Good general ventilation should be sufficient to control airborne levels.

Industrial Hygiene/ Ventilation Measures:

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Bayer strongly urges prevention of skin contact with all materials containing monomeric Desmodur W. Diisocyanate, including adducts, pre-polymers and formulations based on Desmodur W. Since spray application increases the potential for skin contact, stringent precautions must be taken to ensure the safety of the persons involved with the spray application as well as other persons working in the area who have potential for skin contact with the uncured material. For additional information on Work/Hygiene Procedures, Skin Protection, Ventilation and Respiratory Protection Requirements, see Bayer's booklet "Desmodur W. Aliphatic Diisocyanate Health and Safety Information." Local exhaust should be used to maintain levels below the TLV whenever this diisocyanate is heated, sprayed, or aerosolized.

Respiratory Protection:

None normally needed. Because of the low vapor pressure of ISOCYANATES, local exhaust ventilation is usually sufficient to keep vapors below the TLV at room temperatures. Exceptions are when the material is heated or sprayed. If airborne concentrations exceed or are expected to exceed the TLV, use a positive pressure, self-contained breathing apparatus. Air purifying (cartridge type) respirators are not approved for Isocyanate vapors. A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin Protection:

The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Polyvinyl alcohol VITON® synthetic rubber (registered trademark of E.I. Du Pont Co.) Solvent resistant gloves. Where contact is likely, wear chemical resistant gloves and a face shield.

Hand Protection

Gloves should be worn, Nitrile rubber gloves, Butyl rubber gloves, Neoprene gloves.

Eye Protection:

Wear safety glasses with side shields (or goggles) and a face shield.

Other Protective Equipment:

Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact. Testing of some commercially available protective clothing indicates that clothing constructed of butyl rubber, nitrile rubber, Saranex coated Tyvek and some neoprene garments have excellent resistance to permeation by ISOCYANATES. Clothing constructed of neoprene/latex rubber, some PVC garments, some polyethylene, and poly laminated Tyvek showed little resistance to permeation by ISOCYANATES.

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Protective clothing should be selected and used in accordance with, "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH.

Hygienic Practices:

Use only in a well ventilated area. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors from material. Avoid prolonged or repeated contact with skin. Remove contaminated clothing and wash before reuse, wash hands before eating. Follow all MSDS/label precautions even after container is emptied because they may retain product residues.

7. Physical And Chemical Properties:

Boiling Range: N.A.

Vapor Density: Is heavier than air.

Odor: SL. Petroleum

Odor Threshold: N.A.

Appearance: Clear Liquid

Evaporation Rate: Is slower than Butyl Acetate

Solubility In H2O: Reacts

Specific Gravity: 1.0274

Freeze Point: N.A.

PH @ 0.0%: N.A.

Vapor Pressure: 0.000015 mmHg

Viscosity: N.A.

Physical State: Liquid

Coefficient of Water/Oil Distribution: N.A.

8. Stability And Reactivity:

Conditions to Avoid:

Protect from freezing or other extreme temperatures.

Incompatibility:

Isocyanates will react with any materials containing active hydrogens, such as Water, Alcohols, Ammonia, Amines, Alkalis, and Acids. The reaction with water (including humid conditions) is accelerated at higher temperatures and in the presence of alkalis, tertiary amines and metal compounds. Some reactions can be violent. Reacts with alkali and alkaline earth metals, which have a strong affinity for chlorine. Contact with iron, zinc, aluminum and their compounds will catalyze decomposition.

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Hazardous Decomposition Products:

If exposed to moisture, carbon dioxide will form which may rupture closed containers. CO, CO₂, Hydrocarbons, and other products of combustion.

Hazardous Polymerization:

Will not occur under normal conditions.

Stability:

This product is stable under normal storage conditions.

9. Toxicological Information:

Acute Oral Toxicity

> 11,000 mg/kg (Rat)

Acute Inhalation Toxicity

LC50: 434 mg/m³, aerosol, 4 hrs (Rats)

LC50: 510 mg/m³, 1 hrs (Guinea pig)

Acute dermal toxicity

LD50: >10,000 mg/kg (rabbit)

Skin Irritation

Rabbit, Draize Test, Exposure Time: 24 hrs, Moderately irritating

Eye Irritation

Rabbit, Draize Test, Slightly irritating

Sensitization

Inhalation: sensitizer (Guinea pig)

Dermal: sensitizer (mouse, Mouse ear swelling test)

Repeated Dose Toxicity

2 weeks, inhalation: NOAEL: <0.04 mg/l, (Rat,)

4 weeks, inhalation: NOAEL: 1.06 mg/m³, (Rat, Male/Female, 6hrs/day 5 days/week)

Mutagenicity

Genetic Toxicity in Vito:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Toxicity to Reproduction/Fertility

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Inhalation, 6 hrs/day 7 days/week, (Rat, Male/Female) NOAEL (parental):
1.00 mg/m³, NOAEL (F2): 6.00 mg/m³

Developmental Toxicity/Teratogenicity

Rat, Female, inhalation, 6 hrs/day 7 days/week, NOAEL (teratogenicity): 6
mg/cbm, NOAEL (maternal): 1 mg/cbm

10. Ecological Information:

Biodegradation

Aerobic, 0%, Exposure time: 28 Days

Theoretical Biological Oxygen Demand (ThBOD)

2,195 mg/g

Acute and Prolonged Toxicity to Fish

LC50: 1.2 mg/l (Water Flea (Daphnia magna), 48 hrs)

Toxicity to Aquatic Plants

EC50: >5 mg/l, End Point: growth (Green algae (Scenedesmus subspicatus),
72 hrs)

Toxicity to Microorganisms

EC50: 19 mg/l, (Activated sludge microorganisms, 3 hrs)

11. Disposal Considerations:

Waste Disposal Method:

Waste disposal should be in accordance with existing federal, state, and local
environmental control laws. Incineration is the preferred method.

Empty Container Precautions:

Empty containers retain product residue; observe all precautions for product. Do
not heat or cut empty container with electric or gas torch because highly toxic
vapors and gases are formed. Do not reuse without thorough commercial
cleaning and reconditioning. If container is to be disposed, ensure all product
residues are removed prior to disposal.

Transportation Method:

DOT Proper Shipping Name: Other regulated substances, liquid, N.O.S.

DOT Technical Name: (contains Hexamethylene-1,6 Diisocyanate)

DOT Hazardous Class: 9

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DOT Hazardous Subclass: N.A.

DOT UN/NA Number: NA3082 **Packing Group:** III

RESP. Guide Page: 171

RSPA/DOT Regulated Components

Hexamethylene-1,6-Diisocyanate

Reportable Quantity: 18151 kg (40016 lbs)

Sea Transport (IMDG)

Non-Regulated

Air Transport (ICAO/IATA)

Non-Regulated

Additional Transportation Information

When in individual containers of less than the Product RQ, this material ships as non-regulated.

12. Regulatory Information:

U.S. Federal Regulations: As Follows

OSHA:

Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

CERCLA – SARA Hazard Category:

This product has been reviewed according to the EPA ‘Hazard Categories’ promulgated under Section 311 and 312 of the Superfund Amendment and

Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD.

Sara Section 313:

This product contains the following subject to the reporting requirements of Section 313 of the Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

MATERIAL SAFETY DATA SHEET
FLECKS BINDER PART B
EMERGENCY CONTACT NUMBERS:
CHEMTREC 24 HOURS 1-800-424-9300

-----Chemical Name----- CAS Number
DICYCLOHEXYLMETHANE-4,4' -DIISOCYANATE 5124-30-1

U.S. State Regulations: As Follows

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

<u>Weight%</u>	<u>Components</u>	<u>CAS-No.</u>
60-80%	Dicyclohexymethane-4,4'- Diisocyanate	5124-30-1
15-25%	Polyurethane Pre-polymer	CAS# is a trade secret

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substance Lists:

<u>Weight%</u>	<u>Components</u>	<u>CAS-No</u>
60-85%	Dicyclohexylmethane-4,4'- Diisocyanate	5124-30-1

New Jersey Right-To-Know:

The following materials are non-hazardous, but are among the top five components in this product:

-----Chemical Name-----	CAS Number
BENZOTRIAZOLYL BIS (METHYLPHENYLETHYL PHE	70321-86-7
TETRAKIS (METHYLENE (3, 5-DI-TERT-BUTYL-4-H)	6683-19-8

Pennsylvania Right-To-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

-----Chemical Name-----	CAS Number
No non-hazardous ingredients are present at greater than 3%.	

California Proposition 65:

Warning: The chemical (s) noted below and contained in this product, are known to the state of California to cause cancer, birth defects or other reproductive harm:

-----Chemical Name-----	CAS Number
No Proposition 65 chemicals exist in this product.	

**MATERIAL SAFETY DATA SHEET
FLECKS BINDER PART B
EMERGENCY CONTACT NUMBERS:
CHEMTREC 24 HOURS 1-800-424-9300**

International Regulations: As Follows

Canadian WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations.

Canadian WHMIS Class:

No information available.

TSCA Information:

TSCA (Toxic Substances Control Act) Regulations, 40 CFR 710: All ingredients are on the TSCA Section 8 (b) Inventory.

Carcinogenicity Information:

No information.

13. Other Information:

The method of hazard communication for WM Polymers, LLC is comprised of Product Labels and Safety Data Sheets.

The handling of products containing reactive HDI polyisocyanate/prepolymer and/or monomeric HDI requires appropriate protective measures referred to in this SDS. These products are therefore recommended only for use in industrial or trade (commercial) applications. They are not suitable for use in Do-it-Yourself applications.

Note: This information is furnished without warranty express or implied. This information is believed to be accurate to the best knowledge of WM Polymers, LLC. The information in this SDS relates only to the specific material designated herein. WM Polymers, LLC assumes no legal responsibility for use of or reliance upon the information in this SDS.

WM Holdings, Inc. dba WM Polymers
885 Bangert Blvd.
Toms River, NJ 08757

8am to 5:00pm Phone: (848) 240-7062
24-Hour Health/Environmental Emergency Phone: 1-888-354-3323

Effective Date: 6/07/16

Safety Data Sheet

SDS No: 060716

1. PRODUCT IDENTIFICATION

Trade Name: Flecks® Granular

Chemical Family: Thermoplastic Rubber (TPR)

Intended Use or Product Type: Thermoplastic Rubber Surfacing

Health	0
Flammability	0
Reactivity	0
Protective Equipment	

HMIS RATING

2. COMPOSITION / INFORMATION ON INGREDIENTS

Does not contain harmful or hazardous ingredients.

3. HAZARDS IDENTIFICATION

There are no health or environmental hazards under current legislation.

Environment: This product is not hazardous to the environment.

Human Health: No specific hazards.

4. FIRST AID MEASURES

Ingestion: Not relevant.

Skin: Not relevant.

Inhalation: Not relevant.

Eyes: Dust particles in the eyes. Immediately flush eyes for at least 15 minutes with running water. Hold eyelids apart to ensure rinsing of the entire eye surface and lids with water. Do not rub eyes. If physician is not available, flush for an additional 15 minutes.

Notice to physician: No specific treatment. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flash Point: N/A

Flash Point Method Used: N/A

Fire Fighting Extinguishing Media

Suitable:

Large Fires - Alcohol resistant foam, water spray, fog or mist.

Small Fires - Water spray, dry powder, carbon dioxide, sand, dolomite, etc.

Non-Suitable: None Known.

Fire Fighting Equipment: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Fire and Exposure Hazards: Not classified as flammable, but surface will burn. Carbon Monoxide may evolve if incomplete combustion occurs.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: see Section 8.

Environmental Precautions: Not dangerous to the environment.

Methods for cleaning up: Not relevant.

7. HANDLING AND STORAGE

Handling: Not relevant.

Storage: Store in original container in a dry area. Keep container tightly closed and sealed until ready for use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures: Not relevant.

Respiratory: Not relevant.

Hands: Depending on use, 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. >8 hours (breakthrough time): butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL), nitrile rubber, neoprene, Polyvinyl Chloride (PVC)

Eyes: Not relevant.

Skin: Not relevant.

Environmental Exposure Controls: Not relevant.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Granular
Odor:	Odorless
Physical State:	Solid
Solubility in Water:	Insoluble
Specific Gravity:	1.00 to 1.05 (H ₂ O = 1)
Shore A Hardness:	70A

Melting Point:	Temperatures above 480° F
Flash Point:	Not Determined
Flammable limits:	Not Determined
Auto-ignition temperature:	Not Determined
Decomposition Temperature:	Not Determined

10. STABILITY AND REACTIVITY

Conditions to Avoid: Temperatures above 480° F.

Chemical Stability: The product is stable.

Incompatibility: None known.

Materials to avoid: Gasoline, Diesel Fuel.

Hazardous Decomposition Products: Not relevant.

Hazardous Polymerization: Not relevant.

11. TOXICOLOGICAL INFORMATION

Potential acute health effects

Inhalation: No known effects or critical hazards.

Ingestion: No known effects or critical hazards.

Skin: No known effects or critical hazards.

Eyes: No known effects or critical hazards.

12. ECOLOGICAL INFORMATION

Environmental effects: Not regarded as dangerous to the environment.

Bioaccumulation: This product is not bioaccumulating.

Acute Fish Toxicity: Not considered toxic or harmful to fish.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: The generation of waste should be avoided or minimized wherever possible. 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT: Not classified.

IATA: Not classified.

IMDG: Not classified.

TDG: Not classified.

15. REGULATORY INFORMATION

Safety Phrases: Not classified.

Risk Phrases: Not classified.

16. OTHER INFORMATION

MSDS No:	060716
Prepared by:	W. McGrath
Approved by:	McGrath, William L.
Title:	Production Manager

Other Information: For further information, contact Product Safety personnel at (732) 569-6161.



Innovators of Seamless Flooring Systems

SAFETY DATA SHEET

FLECKS® GUARD ACTIVATOR

Issue Date: 2/22/2017

Revision # 090916-BM3

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

Product Identifier

Product Name: FLECKS® GUARD ACTIVATOR

Other means of identification

Product Code: FS-0213

Synonyms No information available

Recommended use of the chemical and restrictions on use

Recommended Use: FLECKS® GUARD Activator

Uses advised against: No information available

Details of the supplier of the safety data sheet

Manufacturer Address:

WM Holdings, Inc., dba WM Polymers
885 Toms River, NJ 08757

Emergency Telephone Number

Company Phone Number +1-732-569-6161 (Eastern)

Company 24 Hour Emergency Number: +1-848-240-7062

24 Hour Emergency Telephone Number: CHEMTREC: 1(800) 424-9300 (in USA and Canada) or +1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status:

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 3
Skin sensitization	Category 1

Label Elements

Emergency Overview

Warning

Hazard statements

May cause an allergic skin reaction
Causes mild skin irritation



Appearance: Light Yellow

Physical State: Liquid

Odor: characteristic

Precautionary Statements – Prevention:

Avoid breathing dust/fume/gas/mist/vapors/spray
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves

Precautionary Statements – Response:

If skin irritation or rash occurs: Get medical advice/attention



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FLECKS® GUARD ACTIVATOR

Issue Date: 2/22/2017

Revision # 090916-BM3

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse

Precautionary Statements – Disposal:

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC):

Not applicable

Other information:

May cause eye irritation.

Unknown Acute Toxicity

39.6% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients not listed in this section are non-hazardous or proprietary.

Chemical characterization: Mixture
Chemical nature: Aqueous solution

Chemical Name	CAS-No	Weight %	Trade Secret
Multifunctional polycarbodiimide	Proprietary	15-40	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures:

Eye Contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.

Skin Contact: Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.

Inhalation: If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.

Ingestion: Rinse mouth with water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. If swallowed, get medical help or contact a Poison Control Center right away.

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed:

Notes to Physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray. Carbon dioxide (CO₂). Foam.

Unsuitable Extinguishing Media: No information available.



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FLECKS® GUARD ACTIVATOR

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Specific hazards arising from the chemical:

In the event of fire and/or explosion do not breathe fumes. Thermal decomposition can lead to release of irritating gases and vapors. Heating of containers may cause pressure rise, with risk of bursting.

Hazardous combustion products: Carbon monoxide. Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

Explosion data:

Sensitivity to Mechanical Impact: No.

Sensitivity to Static Discharge: No.

Protective equipment and precautions for firefighters:

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal precautions: Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid contact with the skin and the eyes.

For emergency responders: Use personal protection recommended in Section 8.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up:

Methods for Containment: Contain spill with inert material (e.g. sand, silical gel, binder).

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling:

Advice on safe handling: Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist.

Conditions for safe storage, including any incompatibilities:

Storage Conditions: Keep containers tightly closed in a cool, well-ventilated place. Keep from freezing. Store in original container.

Incompatible Products: Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Exposure Guidelines: This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.



Innovators of Seamless Flooring Systems

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FLECKS® GUARD ACTIVATOR

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Appropriate engineering controls:

Engineering Measures: Showers
Eyewash stations
Ventilation systems. Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Tightly fitting safety goggles. If splashes are likely to occur, wear: Face-shield.
Skin and body protection: Wear protective gloves and protective clothing. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Physical State:	Liquid	
Appearance:	light yellow	
Odor:	characteristic	
Color:	light yellow	
Odor threshold:	No information available	
pH:	11.3	(Measured)
Melting point/Freezing Point:	Not applicable	
Boiling Point/Range:	100°C / 212°F	(Estimated)
Flash Point:	Not applicable	
Specific gravity:	1.04	(Measured)
Water solubility:	Miscible with water	
Kinematic viscosity:	No information available	
Dynamic viscosity:	60 mPa's	(Measured)
Explosive properties:	No information available	
Oxidizing properties:	No information available	

Other information:

VOC Content (%): No information available
Density: No information available

10. STABILITY AND REACTIVITY

Reactivity: Reacts with active hydrogen-containing compounds such as carboxylic acids, amines, and alcohols.

Chemical stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous polymerization: Inhibitors have been added to stabilize this product.

Conditions to Avoid: Do not freeze. Heat, flames and sparks.

Incompatible materials: Strong oxidizing agents.



Innovators of Seamless Flooring Systems

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FLECKS® GUARD ACTIVATOR

Issue Date: 2/22/2017

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Hazardous Decomposition Products: Thermal decomposition can lead to release of irritating gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Product Information: No acute toxicity information is available for this product

Information on toxicological effects:

Symptoms: No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure:

Irritation: Irritating to eyes and skin.
Sensitization: May cause sensitization by skin contact.
Germ Cell Mutagenicity: No information available.
Carcinogenicity: No component of this product present at levels greater than or equal to 0.1% is listed with NTP, IARC or OSHA.
Reproductive Effects: No information available.
STOT - single exposure: No information available.
STOT - repeated exposure: No information available.
Aspiration Hazard: No information available.

Numerical measures of toxicity - Product Information:

Unknown Acute Toxicity: 39.6% of the mixture consists of ingredient(s) of unknown toxicity

12. ECOLOGICAL INFORMATION

Ecotoxicity: No information available

*39.599% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability: No information available.

Bioaccumulation: No information available.

Other adverse effects: No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Waste Disposal Methods: Dispose of contents/container in accordance with local regulation.

Contaminated packaging: Empty containers should be taken for local recycling, recovery or waste disposal. The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

14. TRANSPORT INFORMATION

DOT: Not regulated

TDG: Not regulated

ICAO/IATA: Not regulated

IMDG/IMO: Not regulated



Innovators of Seamless Flooring Systems

SAFETY DATA SHEET

FLECKS® GUARD ACTIVATOR

Issue Date: 2/22/2017

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15. REGULATORY INFORMATION

International Inventories

TSCA: Complies
DSL: Listed on NDSL

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Inventories of Domestic and Non-Domestic Chemical Substances
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/ EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

U.S. Federal Regulations

SARA 313:

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazardous

Categorization:

Acute Health Hazard: Yes
Chronic Health Hazard: No
Fire Hazard: No
Sudden release of pressure hazard: No
Reactive Hazard: No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This product does not contain any chemicals subject to reporting requirements (RQ) of CERCLA (40 CFR 302.4).

U.S. State Regulations

California Proposition 65: This product contains one or more substances listed on California Proposition 65.

State Right-to-Know: This product does not contain substances subject to state right-to-know regulations.

16. OTHER INFORMATION

NFPA	Health Hazards: 2	Flammability: 0	Instability: 1
HMIS	Health Hazards: 2	Flammability: 0	Physical Hazards: 0

Prepared by: Operations Manager
Issue Date: 2/22/2017 12:02 PM
Revision Date: 9/09/2016
Revision #: 090916-BM3
Revision Note: (M)SDS created per GHS requirements.



Innovators of Seamless Flooring Systems

SAFETY DATA SHEET

FLECKS® GUARD ACTIVATOR

Issue Date: 2/22/2017

Revision # 090916-BM3

Disclaimer:

The information provided on this MSDS / SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet



Innovators of Seamless Flooring Systems

SAFETY DATA SHEET

Flecks Primer Part
Issue Date: 1/24/2017
Revision # 012017-BM3

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

Product Identifier

Product Name: FLECKS® PRIMER

Other means of identification

Product Code: FS-0213

Synonyms No information available

Recommended use of the chemical and restrictions on use

Recommended Use: Primer coating for Flecks® Surfacing Systems

Uses advised against: No information available

Details of the supplier of the safety data sheet

Manufacturer Address:

WM Holdings, Inc., dba WM Polymers
885 Toms River, NJ 08757

Emergency Telephone Number

Company Phone Number +1-732-569-6161 (Eastern)

Company 24 Hour Emergency Number: +1-848-240-7062

24 Hour Emergency Telephone Number: CHEMTREC: 1(800) 424-9300 (in USA and Canada) or +1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status:

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Inhalation)	Category 4
Skin sensitization	Category 2
Eye irritation	Category 2B
Respiratory sensitization	Category 1
Specific target organ toxicity	Category 3 (Respiratory System)
Specific target organ toxicity	Category 1 (Respiratory Tract)

GHS Label Elements

Emergency Overview

Danger

Hazard statements:

- Harmful if inhaled.
- May cause an allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause respiratory irritation.
- Causes skin irritation.
- Causes eye irritation.
- Causes damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.



Appearance: Dark Brown

Physical State: Liquid

Odor: characteristic



Innovators of Seamless Flooring Systems

SAFETY DATA SHEET

Flecks Primer Part
Issue Date: 1/24/2017
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Precautionary Statements – Prevention:

Do not breath dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product.
Wear protective gloves.
Wash skin and face thoroughly after handling.
Use only outdoors or in a well-ventilated area.
In case of inadequate ventilation wear respiratory protection. The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134) or regional standards. For additional details see section 8 of SDS.

Precautionary Statements – Response:

Get medical attention if you feel unwell.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
If experiencing respiratory symptoms: Call a doctor or emergency medical facility (i.e. 911).
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. Take off contaminated clothing and wash before reuse.

Precautionary Statements – Storage:

Store in a well-ventilated place.
Keep container tightly closed.
Store locked up.

Precautionary Statements – Disposal:

Dispose of contents and container in accordance with existing federal, state, and local environmental control laws.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients not listed in this section are non-hazardous or proprietary.

Chemical characterization: Mixture
Chemical nature: Aqueous solution

Components	CAS-No	Weight %	Classification	Trade Secret
4,4'-Diphenylmethane Diisocyanate (MDI)	101-68-8	10 – 20%	Acute toxicity Category 4 Inhalation. Skin irritation Category 2. Eye irritation Category 2B. Respiratory sensitization Category 1. Skin sensitization Category 1. Specific target organ toxicity – single exposure Category 3 Respiratory system. Specific target organ toxicity – repeated exposure Category 1 Respiratory Tract.	
Polyisocyanate Prepolymer based on MDI		60-100%	Acute toxicity Category 4 Inhalation. Skin irritation Category 2. Eye irritation Category 2B. Respiratory sensitization Category 1. Skin sensitization Category 1. Specific target organ toxicity – single exposure Category 3 Respiratory system. Specific target organ toxicity – repeated exposure Category 1 Respiratory Tract.	*



Innovators of Seamless Flooring Systems

SAFETY DATA SHEET

Flecks Primer Part

Issue Date: 1/24/2017

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Polymeric Diphenylmethane Diisocyanate (pMDI)	9016-87-9	5 – 10%	Acute toxicity Category 4 Inhalation. Skin irritation Category 2. Eye irritation Category 2B. Respiratory sensitization Category 1. Skin sensitization Category 1. Specific target organ toxicity – single exposure Category 3 Respiratory system. Specific target organ toxicity – repeated exposure Category 1 Respiratory Tract.
Diphenylmethane Diisocyanate (MDI) Mixed Isomers	26447-40-5	1 – 5%	Acute toxicity Category 4 Inhalation. Skin irritation Category 2. Eye irritation Category 2B. Respiratory sensitization Category 1. Skin sensitization Category 1. Specific target organ toxicity – single exposure Category 3 Respiratory system. Specific target organ toxicity – repeated exposure Category 1 Inhalation Respiratory Tract.

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Most important symptoms and effects, both acute and delayed:

Acute: Diisocyanate vapors or mist at concentrations above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Causes skin irritation with symptoms of reddening, itching, and swelling. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling and rash. Cured material is difficult to remove. Contact with MDI can cause discoloration.

Causes eye irritation with symptoms of reddening, tearing, stinging and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing.

May cause irritation of the digestive tract. Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Delayed: Symptoms affecting the respiratory tract can also occur several hours after overexposure.

Description of first aid measures:

Eye Contact: 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 that eyelids are separated and that the eye is being irrigated. Get medical attention.

Skin Contact: Immediately remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Wash contaminated clothing before reuse. For severe exposures,



Innovators of Seamless Flooring Systems

SAFETY DATA SHEET

Flecks Primer Part

Issue Date: 1/24/2017

Revision # 012017-BM3

immediately get under safety shower and begin rinsing. Get medical attention if irritation develops.

Inhalation: Move to an area free from further exposure. Extreme asthmatic reactions that may occur in sensitized persons can be life threatening. 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.

Ingestion: Do NOT induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention.

Notes to Physician:

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.

Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.

Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound.

Inhalation: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical, Carbon dioxide (CO₂). Foam, water spray for large fires.

Unsuitable Extinguishing Media: High volume water jet.

Fire Fighting Procedure:

Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated Diisocyanate can be extremely dangerous.

Hazardous Decomposition Products:

By Fire and High Heat: Carbon dioxide (CO₂), carbon monoxide (CO), Nitrogen oxides (NO_x), dense black smoke., Isocyanate, Isocyanic Acid, Other undetermined compounds.

Unusual Fire/Explosion Hazards:

Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO₂ formed). Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot Diisocyanate can be vigorous.

6. ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedures:

Implement site emergency response plan. Evacuate non-emergency personnel. The magnitude of the evacuation depends upon the quantity released, site conditions, and the ambient temperature. Isolate the area and prevent access of unauthorized personnel. Notify management. Call CHEMTREC at 1-800-424-9300 for assistance and advice.



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Wear necessary personal protective equipment (PPE) as specified in the SDS or the site emergency response plan. Ventilate and remove ignition sources. Control the source of the leak. Contain the released material by damming, diking, retaining, or diverting into an appropriate containment area. Absorb or pump off as much of the spilled material as possible. When using absorbent, completely cover the spill area with suitable absorbent material (e.g., vermiculite, kitty litter, Oil-Dri®, etc...). Allow for the absorbent material to absorb the spilled liquid. Shovel the absorbent material into an approved metal container (i.e., 55-gallon salvage drum). Do not fill the container more than 2/3 full to allow for expansion, and do not tighten the lid on the container. Repeat application of absorbent material until all liquid has been removed from the surface.

Decontaminate the spill surface area using a neutralization solution (see list of solutions on the SDS); scrubbing the surface with a broom or brush helps the decontamination solution to penetrate into porous surfaces. Wait at least 15 minutes after first application of neutralization solution. Cover the area with absorbent material and shovel into an approved metal container. Check for residual surface contamination using Swype® test kits, available from Colorimetric Laboratories, Inc. (CLI) at 847-803-3737. If the Swype® test pad demonstrates that isocyanate remains on the surface (red color on pad), repeat applications of neutralization solution with scrubbing, followed by absorbent until the surface is decontaminated (no color change on Swype® pad). Apply lid loosely to metal waste container (do not tighten the lid because carbon dioxide gas and heat can be generated from the neutralization process). With the lid still loosely in place, move the container to an isolated, well -ventilated area to allow release of contaminated equipment (i.e., broom or brush) in accordance with existing federal, state and local regulations.

Additional Spill Procedures/Neutralization:

Products or product mixtures that have been shown to be effective neutralization solutions for decontaminated surfaces, tools or equipment that have been in contact with an isocyanate includes:

Products available through industrial suppliers:

- **Spartan Chemical Company:** 1-800-537-8990
 - Spartan® ShineLine Emulsifier Plus
 - Spartan® SC-200 Heavy Duty Cleaner
- **Colorimetric Laboratories, Inc. (CLI):** 1-847-803-3737
 - Isocyanate Decontamination Solution
- A mixture of 80% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10).
- Mix equal amounts of the following:
 - Mineral spirits (80%), VM&P Naphtha (15%), and household detergent (5%), and
 - A 50-50 mixture of monoethanolamine and water.

In a separate container, blend the two solutions in a 1:1 ratio by volume. Immediately prior to applying this blended neutralization solution onto the contaminated surface area, mix or agitate the container to help ensure uniform mixing of the ingredients.

If the above products are not available, the following products can be obtained through retail outlets:

- ZEP® Commercial Heavy-Duty Floor Stripper
- Greased Lightning® Super Strength Cleaner and Degreaser
- EASY OFF® Grill and Oven Cleaner or EASY OFF® Fume Free Oven Cleaner
- A mixture of 50% Simple Green® Pro HD Heavy-Duty Cleaner and 50% household ammonia.
- A mixture of 90% Fantastic® Heavy Duty All Purpose Cleaner and 10% household ammonia.

Note: Always wear proper PPE when cleaning up an isocyanate spill and using a neutralization solution. It may take two or more applications of neutralization solution to decontaminate the surface. Check for residual surface contamination using a surface wipe method such as the CLI Swype® pad.

7. HANDLING AND STORAGE



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Handling/Storage Precautions:

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose, and through or odor) are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either 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. 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. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.

Storage Period: 6 Months @ 25°C (77°F): after receipt of material by customer

Storage Temperature:

- **Minimum:** 18°C (64.4°F)
- **Maximum:** 40°C (104°F)

Storage Conditions: Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Substances to avoid: Water, Amines, Strong bases, Alcohols, Copper alloys.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

4,4'-Diphenylmethane Diisocyanate (MDI) (101-68-8):

US.ACGIH Threshold Limit Values

Time Weighted Average (TWA): 0.005ppm

US.OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Ceiling Limit Value: 0.02ppm, 0.2 mg/m³

Any component which is listed in section 3 and is not listed in this section does not have a known ACGIH TLV, OSHA PEL or supplier recommended occupational exposure limit.

Industrial Hygiene/Ventilation Measures:

Local exhaust should be used to maintain levels below the TLV whenever MDI is heated, sprayed, or aerosolized. Standard reference sources regarding industrial ventilation (e.g., ACGIH Industrial Ventilation Manual) should be consulted for guidance about adequate ventilation. To ensure that published exposure limits have not been exceeded, monitoring for airborne diisocyanate should become part of the overall employee exposure characterization program. NIOSH, OSHA and others have developed sampling and analytical methods.

Respiratory protection:

Airborne MDI concentrations greater than the ACGIH TLV-TWA (TLV) or OSHA PEL-C (PEL) can occur in inadequately ventilated environments when MDI is sprayed, aerosolized, or heated. In such cases, respiratory protection must be worn. The type of respiratory protection must be worn. The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134). The type of respiratory protection available includes (1) an atmosphere-supplying respirator such as self-contained breathing apparatus (SCBA) or a supplied air respirator (SAR) in the positive pressure or continuous flow mode, or (2) an air-purifying respirator (APR). If an APR is selected then (a) the cartridge must be equipped with an end-of-service life indicator (ESLI) certified by NIOSH, or (b) a change out of schedule, based on objective information or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented. The basis for the change out schedule must be described in the written respirator program. Further, if an APR is selected, the airborne diisocyanate concentration must be no greater than 10 times the TLV or PEL. The recommended APR cartridge is an organic vapor/particulate filter combination cartridge (OV/P100).

Hand Protection:

Gloves should be worn., Nitrile rubber showed excellent resistance., Butyl rubber, neoprene and PVC are also effective.

Eye Protection:

When directly handling liquid product, eye protection is required. Examples of eye protection include a chemical safety goggle, or chemical safety goggle in combination with a full-face shield when there is a greater risk of splash.

Skin Protection:



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Avoid all skin contact. Depending on conditions of use, cover as much of the exposed skin area as possible with appropriate clothing to prevent skin contact. Animal tests and other research indicate that skin contact with MDI can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Medical Surveillance:

All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evaluation. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Applicants who have a history of adult asthma should be restricted from work with isocyanates. Applicants with a history or prior isocyanate sensitization should be excluded from further work with isocyanates. A comprehensive annual medical surveillance program should be instituted for all employees who are potentially exposed to diisocyanates. Once a worker has been diagnosed as sensitized to any isocyanate, no further exposure can be permitted.

Additional Protective Measures:

Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product. Follow all label instructions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Physical State:	Liquid
Appearance:	viscous
Odor:	No Data Available
Color:	Dark Brown
Odor threshold:	No Data Available
pH:	No Data Available
Melting point/Freezing Point:	No Data Available
Boiling Point/Range:	ca. 368°C / 694.4°F
Flash Point:	>237.78°C (460°F) (Pensky-Martens Closed Cup (ASTM D-93))
Evaporation Rate:	No Data Available
Lower Explosion Limit:	No Data Available
Upper Explosion Limit:	No Data Available
Vapor Pressure:	No Data Available
Vapor Density:	No Data Available
Density:	No Data Available
Relative Vapor Density:	No Data Available
Specific Gravity:	No Data Available
Solubility in Water:	Insoluble – Reacts slowly with water to liberate CO ₂ gas
Partition Coefficient: n-octanol/water:	No Data Available
Auto-Ignition Temperature:	No Data Available
Decomposition Temperature:	Polymerizes at about 200°C with evolution of CO ₂ .
Kinematic viscosity:	No Data Available
Dynamic viscosity:	ca. 5,400 mPa.s @ 25°C (77°F)
Bulk Density:	1,138.35 kg/m ³
Self Ignition:	not applicable

10. STABILITY AND REACTIVITY

Hazardous Reactions: Contact with moisture, other materials that react with isocyanates, or temperatures above 350°F (177°C), may cause polymerization.

Materials to Avoid: Water, Amines, Strong bases, Alcohols, Copper alloys.

Hazardous Decomposition Products:

By Fire and High Heat: Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke., Isocyanate, Isocyanic Acid, Other undetermined compounds.

11. TOXICOLOGICAL INFORMATION



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Likely Routes of Exposure:

Skin Contact
Inhalation
Eye Contact

Health Effects and Symptoms:

Acute: Diisocyanate vapors or mist at concentration above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Causes skin irritation with symptoms of reddening, itching, and swelling. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling and rash. Cured material is difficult to remove. Contact with MDI can cause discoloration.

Causes eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing.

May cause irritation of digestive tract. Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Chronic: As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization to isocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to isocyanates at levels well below the TLV or PEL. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Extreme asthmatic reactions can be life threatening. Similar to many non-specific asthmatic responses, there are reports that once sensitized and 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. Sensitization can be permanent. Chronic overexposure to isocyanates has also been reported to cause lung damage (including fibrosis, decreased in lung function) that may be permanent., Prolonged contact with skin can cause reddening, swelling, rash, and, in some cases, skin sensitization. Animal tests and other research indicate that skin contact with MDI can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Prolonged vapor contact with the eyes may cause conjunctivitis.

Delayed: Symptoms affecting the respiratory tract can also occur several hours after overexposure.

Toxicity Data for Flecks® Primer:

Toxicity data based on polymeric MDI (a mixture of monomers and higher molecular weight oligomers).

Acute Oral Toxicity: LD50: >2000 mg/kg (rat, male/female)

Acute Inhalation Toxicity: LC50: 0.49 mg/l, 490 mg/m³, 4 h, aerosol (rat)

The test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can reasonably be expected to be used. Therefore, the test result cannot be directly applied for the purpose of assessing hazard. Based on expert judgment and the weight of the evidence, a modified classification for the acute inhalation toxicity is justified.

Acute Dermal Toxicity: LD50: >9400 mg/kg (rabbit, male female) (OECD Test Guideline 402)

Skin Irritation: rabbit, Slightly irritating



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Sensitization:

Skin sensitization according to Buehler (epicutaneous test): negative (Guinea pig, OECD Test Guideline 406)
Toxicological studies at the product

Repeated Dose Toxicity:

90 Days, inhalation: NOAEL: 1 mg/m³, (rat, Male/Female, 6 hrs./day 5 days/week)
Irritation to lungs and nasal cavity.

2 years, inhalation: NOAEL: 0.2, (rat, Male/Female, 6 hrs./day 5 days/week)
Irritation to lungs and nasal cavity.

Mutagenicity:

Genetic Toxicity in Vitro: Bacterial – gene mutation assay: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Carcinogenicity:

Rat, Male/Female, inhalation, 2 years, 6 hrs./day 5 days/week
LOAEL: 6 mg/l

Polymeric MDI has been classified as IARC Group 3 (“Not classifiable as to its carcinogenicity to humans”) (1999) indicating there is inadequate evidence available to describe the carcinogenic potential. Epidemiological studies found no association between isocyanates and cancer. In chronic exposure studies in rodents, pMDI produced tumors only at the highest exposure level of 6 mg/m³. This exposure level is significantly above the TLV for MDI (0.051 mg/m³). Based on the weight of the evidence, a determination of not classified for carcinogenicity is justified.

Developmental Toxicity/Teratogenicity:

Rat, female, inhalation, gestation days 6-15, 6 hrs./day, NOAEL (teratogenicity): 12 mg/m³, NOAEL (maternal): 4 mg/m³
No Teratogenic effects observed at doses tested., Fetotoxicity seen only with maternal toxicity.

Toxicity Data for 4,4'-Diphenylmethane Diisocyanate (MDI)

Acute Oral Toxicity: LD50: >7616 mg/kg (rat) (OECD Test Guideline 401)

Acute Inhalation Toxicity: LC50: 0.368 mg/l, 4 h, dust/mist (rat, male) (OECD Test Guideline 403)

The test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can be expected to be used. Therefore, the test result cannot be directly applied for the purpose of assessing hazard. Based on expert judgement and the weight of the evidence, a modified classification for acute inhalation toxicity is justified.

Acute Dermal Toxicity: LD50: >9400 mg/kg (rabbit, male/female) (OECD Test Guideline 402)
Studies of a comparable product.

Skin Irritation: rabbit, Draize Test, Slightly irritating.
Human, irritating.

Sensitization: Skin sensitization (local lymph node assay (LLNA)): positive (Mouse, OECD Test Guideline 429)
Respiratory sensitization: positive (Guinea pig)

Repeated Dose Toxicity:

90 Days, inhalation: NOAEL: 0.3 mg/m³, (rat, Male/Female, 18 hrs./day, 5 days/week)
Irritation to lungs and nasal cavity.



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(Human)
Irritation to lungs and nasal cavity.

Mutagenicity:

Genetic Toxicity in Vitro

Ames: (Salmonella typhimurium, Metabolic Activation: with/without)
Positive and negative results were reported. The use of certain solvents which rapidly hydrolyze diisocyanates is suspected of producing the positive mutagenicity results.

Genetic Toxicity in Vivo

Micronucleus Assay: (Mouse) – negative

Micronucleus Test: negative (rat, male, Inhalative (exposure period: 3 x 1h/day over 3 weeks)) – negative

Carcinogenicity: rat, Female, inhalation, 2 Years, 17 hrs/day, 5 days/week – negative

Other Relevant Toxicity Information: May cause irritation of respiratory tract.

Toxicity Data for Polyisocyanate Prepolymer based on MDI

Toxicity Note: See data above for polymeric MDI.

Toxicity Data for Polymeric Diphenylmethane Diisocyanate (pMDI)

Toxicity Note: See data above for polymeric MDI.

Toxicity Data for Polymeric Diphenylmethane Diisocyanate (pMDI) Mixed Isomers

Toxicity Note: See data above for polymeric MDI.

Carcinogenicity:

No carcinogenic substances as defined by IARC, NTP and/or OSHA.

12. ECOLOGICAL INFORMATION

Ecological Data for: Flecks® Primer

Ecotoxicity data based on polymeric MDI (a mixture of monomers and higher molecular weight oligomers).

Biodegradation: 0%, Exposure time: 28 d, i.e. not degradable

Bioaccumulation: Oncorhynchus mykiss (rainbow trout), Exposure time: 112 d, < 1 BCF
Does not bioaccumulate.

Acute and Prolonged Toxicity to Fish: **LC50:** > 100 mg/l (Danio rerio (zebra fish), 96 h)
Studies of a comparable product.

Acute Toxicity to Aquatic Invertebrates: **EC50:** > 83 mg/l (Daphnia magna (Water flea), 48 h)
Studies of a comparable product.

Toxicity to Aquatic Plants: **EC50:** > 100 mg/l (Desmodesmus subspicatus (Green algae), 72 h)
Studies of a comparable product.

Toxicity to Microorganisms: **EC50:** > 100 mg/l, (activated sludge, 3 h)

Ecological Data for 4,4'-Diphenylmethane Diisocyanate MDI



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Acute and Prolonged Toxicity to Fish: LC50: > 500 mg/l (Zebra fish (Brachydanio rerio), 24 h))

Acute Toxicity to Aquatic Invertebrates: EC50: > 500 mg/l (Water flea (Daphnia magna), 24 h)

Ecological Data for Polyisocyanate Prepolymer based on MDI

Additional Ecotoxicological Remarks: See data above for polymeric MDI.

Ecological Data for Polymeric Diphenylmethane Diisocyanate (pMDI)

Additional Ecotoxicological Remarks: See data above for polymeric MDI.

Ecological Data for Polymeric Diphenylmethane Diisocyanate (pMDI) Mixed Isomers

Additional Ecotoxicological Remarks: See data above for polymeric MDI.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Waste disposal should be in accordance with existing federal, state and local environmental control laws. Incineration is the preferred method.

Empty Container Precautions: Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed prior to disposal.

14. TRANSPORT INFORMATION

Land Transport (DOT)

Proper Shipping Name: Other regulated substances, liquid, n.o.s. (contains 4,4'-Diphenylmethane Diisocyanate (MDI))

Hazard Class or Division: 9
UN/NA Number: NA3082
Packaging Group: III
Hazard Label(s): Class 9

RSPA/DOT Regulated Components:

4,4-Diphenylmethane Diisocyanate (MDI)

Reportable Quantity: 14,475 kg (31,912 lb.)

Sea-Transport (IMDG): Non-Regulated

Air Transport (ICAO/IATA): Non-Regulated

Additional Transportation Information: When individual containers less than the Product RQ, this material ships as non-regulated.

15. REGULATORY INFORMATION

United States Federal Regulations

U.S. Toxic Substances Control Act: Listed on the TSCA Inventory.

No substances are subject to TSCA 12(b) export notification requirements.

U.S. EPA CERCLA Hazardous Substances (40 CFR 302) Components:

4,4-Diphenylmethane Diisocyanate (MDI): Reportable quantity: 5000 lbs.



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SARA 311/312 Hazardous

Acute Health Hazard: Yes
Chronic Health Hazard: Yes

U.S. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 320 Extremely Hazardous Substance (40 CFR 355, Appendix A) Components:

None

U.S. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) – Supplier Notification Required Components:

4,4'-Diphenylmethane Diisocyanate (MDI)
Polymeric Diphenylmethane Diisocyanate (pMDI)

US.EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (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:

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

This product contains a trace (ppm) amount of phenyl isocyanate (CAS# 103-71-9) and monochlorobenzene (CAS# 108-90-7) as impurities.

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

<u>Weight Percent</u>	<u>Components</u>	<u>CAS-No.</u>
60 – 100%	Polyisocyanate Prepolymers based on MDI	CAS# is a trade secret
10 – 20%	4,4' Diphenylmethane Diisocyanate (MDI)	101-68-8
5 – 10%	Polymeric Diphenylmethane Diisocyanate (pMDI)	9016-87-9
1 – 5%	Diphenylmethane Diisocyanate (MDI) Mixed Isomers	26447-40-5

Massachusetts Right to Know Extraordinarily Hazardous Substance List:

<u>Weight Percent</u>	<u>Components</u>	<u>CAS-No.</u>
5 – 10 ppm	Furan	110-00-9
1 – 5 ppm	Propylene Oxide	75-56-9

California Prop. 65:

Warning! This product contains chemical(s) known to the State of California to be Carcinogenic.

<u>Weight Percent</u>	<u>Components</u>	<u>CAS-No.</u>
<1 ppm	Acetaldehyde	75-07-0
5 – 10 ppm	Furan	110-00-9



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<1 ppm	Cobalt and cobalt compounds	7440-48-4
1 – 5 ppm	Propylene Oxide	75-56-9

Based on information provided by our suppliers, this product is considered “DRC Conflict Free” as defined by the SEC Conflict Minerals Final Rule (Release No. 34-67716; File No. S7-40-10; Date: 2012-08-22).

16. OTHER INFORMATION

Prepared by: Bill McGrath III, Operations Manager
Issue Date: 1/24/2017 5:15 PM
Revision Date: 1/23/2017
Revision #: 012317-BM3
Revision Note: (M)SDS created per GHS requirements.

Disclaimer:

The information provided on this MSDS / SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet

TROWEL EZ

PRODUCT NAME: DBE DIBASIC ESTERS

MSDS NUMBER: DQ6020CR

DATE ISSUED: 02/02/2016

SUPERSEDES: N/A

ISSUED BY: B. McGrath III

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name: DBE DIBASIC ESTERS

Trade Name: TROWEL EASE

Distributed by:

WM Holdings, Inc. dba WM Polymers

885 Bangert Blvd.

Toms River, NJ 08753

732-569-6161 (office)

732-608-7657 (fax)

info@wmpolymers.com

Emergency Contact: Bill McGrath III (848-240-7062)

Transport Emergency CHEMTREC 1-800-424-9300

2. Composition / Information on Ingredients

Components	CAS #	Concentration
DIMETHYL GLUTARATE	1119-40-0	55 - 65%
DIMETHYL SUCCINATE	106-65-0	15 - 25%
DIMETHYL ADIPATE	627-93-0	10 - 25%

TROWEL EZ

3. Hazards Identification

Emergency overview

CAUTION

May cause eye/skin irritation.

May cause respiratory irritation.

Physical hazards:

Mist / vapors may form explosive mixtures with air.

Vapors are heavier than air and may spread along floors.

OSHA regulatory status

This product contains a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. -- Eye irritant.

Potential health effects

Routes of exposure

Inhalation. Skin contact. Eye contact. Ingestion.

Eyes

Contact with eyes may cause irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Skin

Prolonged and/or repeated skin contact may result in mild irritation or redness and blurred vision.

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Inhalation

May cause irritation of respiratory tract. Inhalation of vapors in high concentration may cause shortness of breath (lung edema).

Ingestion

Do not ingest. Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential environmental effects

Components of this product are hazardous to aquatic life.

4. First Aid Measures

First aid procedures:

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops or persists.

Skin contact

For skin contact flush with large amounts of water while removing contaminated clothing. Get medical attention if irritation develops or persists.

Inhalation

Remove to fresh air. If the affected person is not breathing, apply artificial respiration.

Ingestion

Have victim rinse mouth thoroughly with water. If swallowed, do NOT induce vomiting. Never give anything by mouth to a victim who is unconscious or is

TROWEL EZ

having convulsions. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Obtain medical attention.

Notes to physician

Treat symptomatically.

General advice

If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

General fire hazards

Vapors may form explosive mixtures with air. Vapors are heavier than air and may travel along the ground to some distant source of ignition and flash back.

Extinguishing media:

Suitable extinguishing media -

Dry chemical, CO₂, water spray or regular foam.

Unsuitable extinguishing media

Do not use water jet.

Protection of firefighters

Specific hazards arising from the chemical:

None known.

Protective equipment and precautions for firefighters:

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

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Move containers from fire area if you can do it without risk.

Hazardous combustion products -

Combustion products include fumes, smoke, carbon monoxide and carbon dioxide.

Irritating and toxic gases or fumes may be released during a fire.

Auto-ignition temperature 698 deg F (370 deg C)

Flammability limits in air, lower, 0.9

% by volume

Flammability limits in air, upper, 8

% by volume

Flash point: 217.4 deg F (103 deg C) Tag Closed Cup

6. Accidental Release Measures

Personal precautions -

Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions -

Do not let product enter drains. Do not flush into surface water.

Methods for containment -

Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up -

Large Spills: Dike far ahead of liquid spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated surface thoroughly.

Other information

TROWEL EZ

Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling -

Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Do not breathe gas/fumes/vapor/spray. Do not get this material in contact with skin or eyes. Use this product with adequate ventilation. Use non-sparking tools when opening or closing containers.

Storage -

Keep tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, and flame. Store away from strong oxidizers.

8. Exposure Controls / Personal Protection

Engineering controls -

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits. Personal protective equipment

Eye / face protection -

Avoid contact with eyes. Wear safety glasses; chemical goggles (if splashing is possible).

Skin protection -

Wear suitable protective equipment. Wear as appropriate: solvent-resistant apron and boots.

Respiratory protection -

Under normal conditions, respirator is not normally required. In case of insufficient ventilation wear suitable respiratory equipment.

General hygiene considerations -

Handle in accordance with good industrial hygiene and safety practice.

TROWEL EZ

9. Physical & Chemical Properties

Form/Appearance: Liquid.

Color: Colorless.

Odor: Sweet.

Auto-ignition temperature: 698 deg F (370 deg C)

Boiling point: 384.8 - 437 deg F (196 - 225 deg C)

Decomposition temperature: Not Determined

Evaporation rate: < 0.1 ; Butyl Acetate = 1.0

Flammability limits in air,

lower, % by volume 0.9

Flammability limits in air, 8

upper, % by volume

Flash point: 217.4 deg F (103 deg C) Tag Closed Cup

Freezing point: Not Determined

Melting point: -4 deg F (-20 deg C)

Octanol/H₂O coeff: log Pow: 0.19 at 25 deg C

Odor threshold: 0.1 ppm - 100% detection; 0.01 ppm - 50% detection

pH: Not Determined

Solubility (H₂O): 5.3 % w/w at 20 deg C

Specific gravity: 1.09 at 20 deg C

Vapor density: Not Determined

Vapor pressure: 0.01 kPa at 20 deg C

Viscosity: 2.6 mPa/s at 25 deg C

Comments: DBE is considered 100% VOC (1090 g/l) per EPA

TROWEL EZ

LD50 Rat: 8191 mg/kg

Routes of exposure:

Inhalation. Skin contact. Eye contact. Ingestion.

Sensitization:

Did not cause sensitization on laboratory animals.

Human experience:

Temporary blurred vision has been reported with inhalation, skin and eye contact.

Inhalation can cause irritation to mucous membranes.

Skin contact can cause irritation, rash, discomfort.

Eye contact can cause irritation, excessive tearing, and discomfort.

Eye contact -

Contact with eyes may cause irritation.

A single application of 10 uL to the eye cause corneal opacity. The administration of 10-100 uL of a similar mixture caused corneal opacity, transient increases in corneal thickness, and transient corneal anesthesia.

Skin contact -

This product was not a skin irritant in rabbits when applied to intact skin for 4 hours under semi-occlusive dressings. Earlier studies indicated skin irritation is evident when applied to intact skin for 24 hours under rubber sheeting.

A single application of approximately 60 mg/kg to the skin caused transient increases in the distance from the cornea to the anterior surface of the lens of the eye.

Inhalation -

Avoid inhalation of mists or aerosols.

Toxic effects described in animals from exposure by inhalation include upper respiratory tract irritation. A single 4-hour exposure to 60 ppm caused transient corneal opacity and transient increases in the distance from the cornea to the anterior surface of the lens of the eye.

Further information-

TROWEL EZ

Repeated dose toxicity: oral, rat: 28 day, NOEL: >1,000 mg/kg

Repeated dose toxicity: inhalation, rat: 90 day, NOEL: 0.02 mg/L

12. Ecological Information

Ecotoxicity -

EC50/48-hour/Daphnia =17 mg/L

EC50/72-hour/Algae =46.9 mg/L

LC50/96-hour/Bluegill sunfish =7.5 mg/L

Persistence / degradability -

Readily biodegradable, according to appropriate OECD test.

Assessment of biological degradability (Closed-Bottle Test): 87% after 28 days.

13. Disposal Considerations

Disposal instructions -

Dispose in accordance with all applicable regulations.

14. Transport Information

Department of Transportation (DOT) Requirements

Not regulated as dangerous goods.

15. Regulatory Information

United States Regulations

Federal Regulations

All components are on the U.S. EPA TSCA Inventory List.

U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export

TROWEL EZ

Notification

DIMETHYL SUCCINATE 106-65-0 Section 4 (applies only to those companies that signed an Enforceable Consent Agreement for this chemical)

DIMETHYL ADIPATE 627-93-0 Section 4 (applies only to those companies that signed an Enforceable Consent Agreement for this chemical)

DIMETHYL GLUTARATE 1119-40-0 Section 4 (applies only to those companies that signed an Enforceable Consent Agreement for this chemical)

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes

Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard No

Section 302 extremely hazardous substance

No

16. Other Information

TROWEL EZ

HMIS ratings

Health: 1

Flammability: 1

Physical hazard: 0

NFPA ratings

Health: 1

Flammability: 1

Instability: 0

WM Polymers Material Safety Data Sheet

For Additional Information contact MSDS Coordinator during business hours, Eastern Standard time:
(848) 240-7062

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