2870 CRESTWOOD BLVD. STE B
IRONDALE, AL 35210
205-857-0040

SECTION 1. IDENTIFICATION

PRODUCT NAME	DEFENDER AR57 SIDE A
REVISION DATE	JUNE 2025
MANUFACTURER'S NAME	UMI COATINGS
ADDRESS	2870 CRESTWOOD BLVD. STE B IRONDALE, AL 35210
EMERGENCY PHONE	CHEMTREC: 800-424-9300 (ACCOUNT: CCN1022026)
INFORMATION PHONE NUMBER	205-857-0040

SECTION 2. HAZARDOUS IDENTIFICATION

CLASSIFICATION

Carcinogenicity - Category 2
Eye Irritation - Category 2A
Respiratory Sensitizer (Solid/Liquid) - Category 1
Skin Irritation - Category 2
Skin Sensitizer - Category 1
Specific Target Organ Toxicity - Repeated Exposure - Category 2
Specific Target Organ Toxicity -Single Exposure (Respiratory Tract Irritation) - Category 3

PICTOGRAMS

SIGNAL WORD

Danger

HAZARDOUS STATEMENTS - HEALTH:

H351 - Suspected of causing cancer.
H319 - Causes serious eye irritation
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H373 - May cause damage to organs through prolonged or repeated exposure.
H335 - May cause respiratory irritation

PRECAUTIONARY STATEMENTS - GENERAL:

P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P103 - Read label before use.

PRECAUTIONARY STATEMENTS - PREVENTION:

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash thoroughly after handling.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P271 - Use only outdoors or in a well-ventilated area.
P233 - Keep container tightly closed.

PRECAUTIONARY STATEMENTS - RESPONSE:

P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice/attention.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P321 - Specific treatment (see section 4 on this SDS).
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P362 + P364 - Take off contaminated clothing. And wash it before reuse.
P333 + P313 - If skin irritation or a rash occurs: Get medical advice/attention.
P314 - Get Medical advice/attention if you feel unwell.
P312 - Call a POISON CENTER/doctor if you feel unwell.

PRECAUTIONARY STATEMENTS - STORAGE:

P405 - Store locked up.
P403 + P405 - Store in a well-ventilated place. Store locked up.

PRECAUTIONARY STATEMENTS - DISPOSAL:

P501 - Dispose of contents/ container to an approved waste disposal plant.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	% BY WEIGHT
POLYURETHANE PREPOLYMER	0068092-58-0	42% - 78%
4,4'-METHYLENEDIPHENYL DIISOCYANATE	0000101-68-8	17% - 31%
4-METHYL-1,3-DIOXOLAN-2-ONE	0000108-32-7	6% - 11%
MDI (MONOMER)	0026447-40-5	1.2% - 2.0%

Specific chemical identity and/or exact percentage (concentration) of the composition has been withheld to protect confidentiality.

SECTION 4. FIRST-AID MEASURES

INHALATION:

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

If exposed/feel unwell/concerned: Call a POISON CENTER/doctor.

Eliminate all ignition sources if safe to do so.

SKIN CONTACT:

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Gently blot or brush away excess product. Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before re-use or discard.

IF exposed or concerned: Get medical advice/attention.

EYE CONTACT:

Avoid direct contact. Wear chemical protective gloves, if necessary.

Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

INGESTION:

Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. If vomiting occurs naturally, lie on your side, in the recovery position.

IF exposed or concerned: Get medical advice/attention.

SECTION 5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:

Dry chemical, foam, carbon dioxide is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Sand or earth may be used for small fires only.

UNSUITABLE EXTINGUISHING MEDIA:

If water is used, use very large quantities of cold water. The reaction between water and hot isocyanate may be vigorous.

SPECIFIC HAZARDS IN CASE OF FIRE:

Vapors may accumulate and travel to ignition sources distant from the handling site; flash fire can occur. Excessive pressure or temperature may cause explosive rupture of containers. Water contamination will produce carbon dioxide. Do not reseal contaminated containers as pressure buildup may rupture them.

FIRE-FIGHTING PROCEDURES:

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SPECIAL PROTECTIVE ACTIONS:

Wear NIOSH approved self-contained breathing apparatus in positive pressure mode with full-face piece. Boots, gloves (neoprene), goggles, and full protective clothing are also required. Care should always be exercised in dust/mist areas.

SECTION 6. ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURE:

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Isolate hazard area and keep unnecessary people away. Remove all possible sources of ignition in the surrounding area. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.

RECOMMENDED EQUIPMENT:

Appropriate dust or face mask to eliminate breathing foam dust particulates.

PERSONAL PRECAUTIONS:

Avoid breathing vapors. Avoid contact with skin, eyes or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

ENVIRONMENTAL PRECAUTIONS:

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:

Cover container, but do not seal, and remove from work area. Prepare a decontamination solution of 2.0% liquid detergent and 3-8% concentrated ammonium hydroxide in water (5-10% sodium carbonate may be substituted for the ammonium hydroxide). Follow the precautions on the supplier's safety data sheets.

Treat the spill area with the decontamination solution, using about 10 parts of the solution for each part of the spill, and allow it to react for at least 15 minutes. Carbon dioxide will be evolved, leaving insoluble polyureas. Residues from spill cleanup, even when treated as described may continue to be regulated under provisions of RCRA and require storage and disposal as hazardous waste.

Slowly stir the isocyanate waste into the decontamination solution described above. Let stand for 48 hours, allowing the evolved carbon dioxide to vent away, residues may still be subject to RCRA storage and disposal requirements. Dispose off in compliance with all relevant local, state, and federal laws and regulations regarding treatment.

Slowly stir the isocyanate waste into the decontamination solution described above. Let stand for 48 hours, allowing the evolved carbon dioxide to vent away, residues may still be subject to RCRA storage and disposal requirements. Dispose off in compliance with all relevant local, state, and federal laws and regulations regarding treatment.

SECTION 7. HANDLING AND STORAGE

GENERAL:

Wash hands after use.
Do not get in eyes, on skin or on clothing.
Do not breathe vapors or mists.
Use good personal hygiene practices.
Eating, drinking and smoking in work areas is prohibited.
Remove contaminated clothing and protective equipment before entering eating areas.

VENTILATION REQUIREMENTS:

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

STORAGE ROOM REQUIREMENTS:

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight, strong oxidizers and any incompatibilities. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty container retain residue and may be dangerous. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

Ground and bond containers and receiving equipment. Avoid static electricity by grounding.

Do not cut, drill, grind, weld, or perform similar operations on or near containers. Do not pressurize containers to empty them. Ground all structures, transfer containers and equipment to conform to the national electrical code. Use procedures that prevent static electrical sparks. Static electricity may accumulate and create a fire hazard.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION:

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

SKIN PROTECTION:

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over- boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Depending on conditions of use, additional protection may be required such as apron, arm covers, or full body suit. Wash contaminated clothing before re-wearing.

RESPIRATORY PROTECTION:

If airborne concentrations exceed or are expected to exceed the TLV, use MSHA/NIOSH approved positive pressure supplied pressure supplied air respiratory with a full face piece or an air supplied hood. For emergencies, use a positive pressure self-contained breathing apparatus. Air purifying (cartridge type) respirators are not approved for protection against isocyanates.

APPROPRIATE ENGINEERING CONTROLS:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	OSHA TWA (ppm)	OSHA TWA (mg/m3)	OSHA STEL (ppm)	OSHA STEL (mg/m3)	OSHA TablesZ 1,2,3	OSHA Carcinogen	OSHA Skin designation	NIOSH TWA (ppm)	NIOSH TWA (mg/m3)	NIOSH STEL (ppm)	NIOSH STEL (mg/m3)	NIOSH Carcinogen
4,4'-METHYLENEDIPHENYL DIISOCYANATE	0.02 ceiling	0.2 ceiling			1			0.005	0.050			

Chemical Name	ACGIH TWA (ppm)	ACGIH TWA (mg/m3)	ACGIH STEL (ppm)	ACGIH STEL (mg/m3)
4,4'-METHYLENEDIPHENYL DIISOCYANATE	0.005	0.051		

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES

DENSITY	9.28 LB/GAL
SPECIFIC GRAVITY	1.11
VOC REGULATORY	0.00 LB/GAL
VOC PART A & B COMBINED	NO DATA AVAILABLE
APPEARANCE	CLEAR LIQUID
ODOR THRESHOLD	NO DATA AVAILABLE
ODOR DESCRIPTION	MILD AROMATIC
PH	NO DATA AVAILABLE
WATER SOLUBILITY	REACTS WITH WATER
FLAMMABILITY	NO DATA AVAILABLE
FLASH POINT SYMBOL	NO DATA AVAILABLE
FLASH POINT	94 °C
VISCOSITY	NO DATA AVAILABLE
LOWER EXPLOSION LEVEL	NO DATA AVAILABLE
UPPER EXPLOSION LEVEL	NO DATA AVAILABLE
VAPOR PRESSURE	NO DATA AVAILABLE
VAPOR DENSITY	HEAVIER THAN AIR
FREEZING POINT	NO DATA AVAILABLE
MELTING POINT	NO DATA AVAILABLE
LOW BOILING POINT	150 °C
HIGH BOILING POINT	NO DATA AVAILABLE
AUTO IGNITION TEMP	NO DATA AVAILABLE
DECOMPOSITION PT	NO DATA AVAILABLE
EVAPORATION RATE	SLOWER THAN ETHER
COEFFICIENT WATER/OIL	NO DATA AVAILABLE

SECTION 10. STABILITY AND REACTIVITY

STABILITY:

Material is stable at standard temperature and pressure.

CONDITIONS TO AVOID:

Heat, high temperature, open flame, sparks, and moisture. Contact with incompatible materials in a closed system will cause liberation of carbon dioxide and buildup of pressure.

HAZARDOUS REACTIONS/POLYMERIZATION:

Will not occur under normal conditions but under high temperatures in the presence of alkalis, tertiary amines, and metal compounds will accelerate polymerization. Possible evolution of carbon dioxide gas may rupture closed containers.

INCOMPATIBLE MATERIALS:

This product will react with any material containing active hydrogens, such as water, alcohol, ammonia, amines, alkalis and acids, the reaction with water is slow under 50°C, but is accelerated at higher temperature and in the presence of alkalis, tertiary amines, and metal compounds. Some reactions can be violent. Material can react with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon dioxide, carbon monoxide, nitrogen oxides, trace amounts of hydrogen cyanide and unidentified organic compounds may be formed during combustion.

SECTION 11. TOXICOLOGICAL INFORMATION

SKIN CORROSION/IRRITATION:

Isocyanates react with skin protein and moisture and can cause irritation. Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and, in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms as a result of contact with very small amounts of liquid material or as a result of exposure to vapor. Causes skin irritation.

SERIOUS EYE DAMAGE/IRRITATION:

Liquid, aerosols or vapors are severely irritating and can cause pain, tearing, reddening and swelling. Prolonged vapor contact may cause conjunctivitis. Any level of contact should not be left untreated. Causes serious eye irritation.

RESPIRATORY/SKIN SENSITIZATION:

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

CARCINOGENICITY:

Suspected of causing cancer.

GERM CELL MUTAGENICITY:

No data available.

REPRODUCTIVE TOXICITY:

No data available.

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE:

May cause respiratory irritation.

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE:

May cause damage to organs through prolonged or repeated exposure.

ASPIRATION HAZARD:

No data available.

ACUTE TOXICITY:

0000101-68-8 4,4'-METHYLENEDIPHENYL DIISOCYANATE

LC50 (rat): 369-490 mg/m3 (aerosol) (4-hour exposure) (1)
LC50 (rat): 178 mg/m3 (17.4 ppm) (duration of exposure not reported) (2)
LD50 (oral, rat): greater than 10,000 mg/kg (1,2)
LD50 (dermal, rabbit): greater than 10,000 mg/kg (1)
LD50 (oral, mouse): 2,200 mg/kg (3)

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY:

No data available.

PERSISTENCE AND DEGRADABILITY:

No data available.

BIOACCUMULATIVE POTENTIAL:

No data available.

MOBILITY IN SOIL:

No data available.

OTHER ADVERSE EFFECTS:

No data available.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Under RCRA, it is the responsibility of the user of the product, to determine a the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws. Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14. TRANSPORT INFORMATION

U.S. DOT INFORMATION:

Not regulated.

IMDG INFORMATION:

Not regulated.

IATA INFORMATION:

Not regulated.

SECTION 15. REGULATORY INFORMATION

CHEMICAL NAME	CAS NUMBER	% BY WEIGHT	REGULATION LIST
POLYURETHANE PREPOLYMER	0068092-58-0	42% - 78%	DSL,SARA312,TSCA
4,4'- METHYLENEDIPHENYL DIISOCYANATE	0000101-68-8	17% - 31%	SARA313, DSL,CERCLA,HAPS,SARA312,VHAPS,VOC,TSCA
4-METHYL-1,3-DIOXOLAN -2-ONE	0000108-32-7	6% - 11%	DSL,SARA312,TSCA
MDI (MONOMER)	0026447-40-5	1.2% - 2.0%	DSL,SARA312,VOC,TSCA

SECTION 16. OTHER INFORMATION

OTHER INFORMATION:

Note: As per GHS, category 1 is the greatest level of hazard within each class.

GLOSSARY:

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; CA Prop65- California Proposition 65; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; ECEquivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ- Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCAToxic Substances Control Act Public Law 94-469; TWA- Time Weighted Value; US DOT- US Department of Transportation; WHMISWorkplace Hazardous Materials Information System.

DISCLAIMER:

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

2870 CRESTWOOD BLVD. STE B
IRONDALE, AL 35210
205-857-0040

DEFENDER AR57 SIDE B

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

PRODUCT NAME	DEFENDER AR57 SIDE B
REVISION DATE	JUNE 2025
MANUFACTURER'S NAME	UMI COATINGS
ADDRESS	2870 CRESTWOOD BLVD. STE B IRONDALE, AL 35210
EMERGENCY PHONE	CHEMTREC: 800-424-9300 (ACCOUNT: CCN1022026)
INFORMATION PHONE NUMBER	205-857-0040

SECTION 2. HAZARDOUS IDENTIFICATION

CLASSIFICATION

Acute aquatic toxicity - Category 2
Acute toxicity Dermal - Category 4
Acute toxicity Oral - Category 4
Carcinogenicity - Category 2
Chronic aquatic toxicity - Category 2
Flammable Liquids - Category 4
Serious Eye Damage - Category 1
Skin Irritation - Category 2
Specific Target Organ Toxicity - Repeated Exposure - Category 2

PICTOGRAMS

SIGNAL WORD

Danger

HAZARDOUS STATEMENTS - PHYSICAL:

H227 - Combustible Liquid

HAZARDOUS STATEMENTS - HEALTH:

H312 - Harmful in contact with skin.
H302 - Harmful if swallowed.
H351 - Suspected of causing cancer.
H318 - Causes serious eye damage.
H315 - Causes skin irritation.
H373 - May cause damage to organs through prolonged or repeated exposure.

HAZARDOUS STATEMENTS - ENVIRONMENTAL

H411 - Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS - GENERAL:

P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P103 - Read label before use.

PRECAUTIONARY STATEMENTS - PREVENTION:

P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

PRECAUTIONARY STATEMENTS - RESPONSE:

P302 + P352 - IF ON SKIN: Wash with plenty of water.
P312 - Call a POISON CENTER/doctor if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P362 + P364 - Take off contaminated clothing. And wash it before reuse.
P301 + P312 - IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 - Rinse mouth.
P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P391 - Collect spillage.
P370 + P378 - In case of fire: Use dry chemical, carbon dioxide, foam to extinguish. For detailed information, see Section-5 (Fire Fighting Measures)
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P314 - Get Medical advice/attention if you feel unwell.

PRECAUTIONARY STATEMENTS - STORAGE:

P405 - Store locked up.
P403 - Store in a well-ventilated place.

PRECAUTIONARY STATEMENTS - DISPOSAL:

P501 - Dispose of contents/ container to an approved waste disposal plant.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	% BY WEIGHT
POLYOXYPROPYLENEDIAMINE	0009046-10-0	39% - 69%
BENZENEAMINE, 4,4'-METHYLENEBIS[n-(1-METHYLPROPROPYL)-	0005285-60-9	13% - 23%
AROMATIC AMINE	0068479-98-1	8% - 15%
POLY[OXY(METHYL-1,2-ETHANEDIYL)], .ALPHA. ,.ALPHA.',.ALPHA.''-1,2,3-PROPANETRIYLTRIS[.OMEGA.-(2-AMINOMETHYLETHOXY)-	0064852-22-8	4% - 7%
TITANIUM DIOXIDE	0013463-67-7	3% - 6%
CARBON BLACK	0001333-86-4	0.3% - 0.4%

Specific chemical identity and/or exact percentage (concentration) of the composition has been withheld to protect confidentiality.

SECTION 4. FIRST-AID MEASURES

INHALATION:

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

If exposed/feel unwell/concerned: Call a POISON CENTER/doctor.

SKIN CONTACT:

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Gently blot or brush away excess product. Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before re-use or discard.

IF exposed or concerned: Get medical advice/attention.

EYE CONTACT:

Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

INGESTION:

Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position.

Give 1 or 2 glasses of milk or water to drink and refer person to medical personnel. Do not give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

SECTION 5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:

Dry chemical, foam, carbon dioxide water spray or fog is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Sand or earth may be used for small fires only.

SPECIFIC HAZARDS IN CASE OF FIRE:

Sudden reaction and fire may result when the product is exposed to oxidizing agents.

FIRE-FIGHTING PROCEDURES:

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SPECIAL PROTECTIVE ACTIONS:

Wear NIOSH approved self-contained breathing apparatus in positive pressure mode with full-face piece. Boots, gloves (neoprene), goggles, and full protective clothing are also required. Care should always be exercised in dust/mist areas.

SECTION 6. ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURE:

Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material. Clean up immediately. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

RECOMMENDED EQUIPMENT:

Appropriate dust or face mask to eliminate breathing foam dust particulates.

PERSONAL PRECAUTIONS:

Avoid breathing vapors. Avoid contact with skin, eyes or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

ENVIRONMENTAL PRECAUTIONS:

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:

Soak up material with absorbent and shovel into a chemical waste container. Cover container, but do not seal, and remove from work area. Residues from spill cleanup may continue to be regulated under provisions of RCRA and require storage and disposal as hazardous waste. For major spills, call CHEMTREC (Chemical Transportation Emergency Center) at 800-424-9300.

SECTION 7. HANDLING AND STORAGE

GENERAL:

Wash hands after use.
Do not get in eyes, on skin or on clothing.
Do not breathe vapors or mists.
Use good personal hygiene practices.
Eating, drinking and smoking in work areas is prohibited.
Remove contaminated clothing and protective equipment before entering eating areas.
Eyewash stations and showers should be available in areas where this material is used and stored.

VENTILATION REQUIREMENTS:

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

STORAGE ROOM REQUIREMENTS:

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight, strong oxidizers and any incompatibilities. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty container retain residue and may be dangerous. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

Store in tightly sealed containers to protect from atmospheric moisture. Store in a cool dry area. Store liquid in containers above ground and surround by dikes to contain spills or leaks.

Ground and bond containers and receiving equipment. Avoid static electricity by grounding.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION:

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

SKIN PROTECTION:

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over- boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

RESPIRATORY PROTECTION:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers. When airborne concentrations exceed or are expected to exceed the TLV, use MSHA/NIOSH approved positive pressure supplied air respirator with a full-face piece or an air supplied hood. For emergencies, use a positive pressure self-container breathing apparatus.

APPROPRIATE ENGINEERING CONTROLS:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	OSHA TWA (ppm)	OSHA TWA (mg/m3)	OSHA STEL (ppm)	OSHA STEL (mg/m3)	OSHA TablesZ 1,2,3	OSHA Carcin ogen	OSHA Skin designation	NIOSH TWA (ppm)	NIOSH TWA (mg/m3)	NIOSH STEL (ppm)	NIOSH STEL (mg/m3)	NIOSH Carcinogen
CARBON BLACK		3.5			1				3.5a			1
TITANIUM DIOXIDE		15			1			b				1

Chemical Name	ACGIH TWA (ppm)	ACGIH TWA (mg/m3)	ACGIH STEL (ppm)	ACGIH STEL (mg/m3)
CARBON BLACK		3 (I)		
TITANIUM DIOXIDE		10		

(I) - Inhalable fraction

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES

DENSITY	8.50 LB/GAL
SPECIFIC GRAVITY	1.002
VOC REGULATORY	0.00 LB/GAL
VOC PART A & B COMBINED	N.A.
APPEARANCE	AMBER/ PIGMENTED LIQUID
ODOR THRESHOLD	NO DATA AVAILABLE
ODOR DESCRIPTION	MILD CHEMICAL
PH	NO DATA AVAILABLE
WATER SOLUBILITY	NO DATA AVAILABLE
FLAMMABILITY	NO DATA AVAILABLE
FLASH POINT SYMBOL	NO DATA AVAILABLE
FLASH POINT	92 °C
VISCOSITY	NO DATA AVAILABLE
LOWER EXPLOSION LEVEL	NO DATA AVAILABLE
UPPER EXPLOSION LEVEL	NO DATA AVAILABLE
VAPOR PRESSURE	NO DATA AVAILABLE
VAPOR DENSITY	HEAVIER THAN AIR
FREEZING POINT	NO DATA AVAILABLE
MELTING POINT	NO DATA AVAILABLE
LOW BOILING POINT	308 °C
HIGH BOILING POINT	NO DATA AVAILABLE
AUTO IGNITION TEMP	NO DATA AVAILABLE
DECOMPOSITION PT	NO DATA AVAILABLE
EVAPORATION RATE	SLOWER THAN ETHER
COEFFICIENT WATER/OIL	NO DATA AVAILABLE

SECTION 10. STABILITY AND REACTIVITY

STABILITY:

Material is stable at standard temperature and pressure.

CONDITIONS TO AVOID:

Heat, high temperature, open flame, and moisture. Avoid contact with incompatible materials.

HAZARDOUS REACTIONS/POLYMERIZATION:

Will not occur.

INCOMPATIBLE MATERIALS:

This product will react with any material containing isocyanate. Some reactions can be violent.

HAZARDOUS DECOMPOSITION PRODUCTS:

Combustion products: organic vapors and thermal decomposition fragments.

SECTION 11. TOXICOLOGICAL INFORMATION

SKIN CORROSION/IRRITATION:

Product may be absorbed through skin and cause nausea, headache, and general discomfort.
Causes skin irritation.

SERIOUS EYE DAMAGE/IRRITATION:

Vapors can irritate the eyes. Chemical burns may result due to overexposure. Affects of exposure may be delayed.
Causes serious eye damage.

RESPIRATORY/SKIN SENSITIZATION:

Inhalation : Severe overexposure may induce respiratory sensitization with asthma like symptoms. These symptoms may be immediate or delayed up to several hours after exposure. Chronic exposures may result in permanent decreases in lung function. Skin sensitization may develop after repeated and/or prolonged contact.
No data available.

CARCINOGENICITY:

Suspected of causing cancer.

GERM CELL MUTAGENICITY:

No data available.

REPRODUCTIVE TOXICITY:

No data available.

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE:

No data available.

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE:

May cause damage to organs through prolonged or repeated exposure.

ASPIRATION HAZARD:

No data available.

ACUTE TOXICITY:

If ingested : In humans, irritation or chemical burns of the mouth, pharynx, esophagus and stomach can develop following ingestion, and injury may be severe and cause death. Repeated and prolonged exposure at low levels may result in adverse skin and eye effects, liver and kidney disorders.

Harmful in contact with skin. Harmful if swallowed.

LIKELY ROUTES OF EXPOSURE

Inhalation, Ingestion, Skin contact, Eye contact

CHRONIC EXPOSURE

0001333-86-4 CARBON BLACK CARCINOGENIC EFFECTS:

In 1996, the IARC reevaluated Carbon Black as a Group 2B carcinogen. This evaluation is given to carbon black for which there is inadequate human evidence, but sufficient animal evidence.

Prolonged inhalation of Carbon black can result in lung disease. Symptoms include coughing, shortness of breath, wheezing and reduced pulmonary function.

POTENTIAL HEALTH EFFECTS - MISCELLANEOUS

0001333-86-4 CARBON BLACK

Is an IARC, NTP or OSHA carcinogen. Has shown carcinogenic activity in laboratory animals at high doses. Significance to man is unknown. The following medical conditions may be aggravated by exposure: asthma, respiratory disease.
WARNING: This chemical is known to the State of California to cause cancer.

0013463-67-7 TITANIUM DIOXIDE

Is an IARC, NTP or OSHA carcinogen. In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m3 respirable titanium dust. Analysis of the titanium dioxide concentrations in the rat's lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m3 level are not relevant to the workplace.'Results of a DuPont epidemiology study showed that employees who had been exposed to Titanium Dioxide were at no greater risk of developing lung cancer than were employees who had not been exposed to Titanium dioxide. No pulmonary fibrosis was found in any of the employees and no association was observed between Titanium dioxide exposure and chronic respiratory disease or x-ray abnormalities. Based on the results of this study DuPont concludes that titanium dioxide will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the workplace.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY:

Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

PERSISTENCE AND DEGRADABILITY:

0001333-86-4 CARBON BLACK
Carbon Black's insolubility in water results in it not being biodegradable in any medium or by biota. It is considered persistent in the natural environment.

MOBILITY IN SOIL:

No data available.

OTHER ADVERSE EFFECTS:

No data available.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Under RCRA, it is the responsibility of the user of the product, to determine a the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws. Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14. TRANSPORT INFORMATION

U.S. DOT INFORMATION:

Not regulated.

IMDG INFORMATION:

UN/NA #: 3082 UN
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS AROMATIC AMINE)
Class: 9
Packing group: III
Marine Pollutant : Yes

IATA INFORMATION:

UN/NA #: 3082
UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS AROMATIC AMINE)
Class: 9
Packing group: III
Placard: Class 9

SECTION 15. REGULATORY INFORMATION

CHEMICAL NAME	CAS NUMBER	% BY WEIGHT	REGULATION LIST
POLYOXYPROPYLENEDIAMINE	0009046-10-0	39% - 69%	DSL,SARA312,TSCA
BENZENEAMINE, 4,4'- METHYLENEBIS[n-(1-METHYLPROPROPYL)-	0005285-60-9	13% - 23%	DSL,SARA312,TSCA
AROMATIC AMINE	0068479-98-1	8% - 15%	DSL,SARA312,VOC,TSCA
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-(2- aminomethylethoxy)-	0064852-22-8	4% - 7%	NDSL,SARA312,TSCA
TITANIUM DIOXIDE	0013463-67-7	3% - 6%	DSL,SARA312,TSCA,CA_Prop65 - California Proposition 65
CARBON BLACK	0001333-86-4	0.3% - 0.4%	DSL,SARA312,TSCA,CA_Prop65 - California Proposition 65

SECTION 16. OTHER INFORMATION

OTHER INFORMATION:

Note: There are points of differences between OSHA GHS and UN GHS. In 90% of the categories, they can be used interchangeably, but for the Skin Corrosion/Irritant Category and the Specific Target Organ Toxicity (Single and Repeated Exposure) Categories. In these cases, our system will say UN GHS.

GLOSSARY

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; CA Prop65- California Proposition 65; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; ECEquivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ- Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCAToxic Substances Control Act Public Law 94-469; TWA- Time Weighted Value; US DOT- US Department of Transportation; WHMISWorkplace Hazardous Materials Information System.

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VERSION 1.0:

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