I&I Guard®-MSF
BY VORTEX

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	• I&I Guard®-MSF
Trade Name	• I&I Guard®-MSF Stabilizer
Company	• Quadex LLC, 564 W. 9320 S., Sandy, UT 84070
Company Contact	• Matthew Peterson
Company Phone	• 844-782-4832
Emergency	• Domestic Shipments and to Canada: 1-800-633-8253 • International Shipments: 1-801-629-0667

2. HAZARDS IDENTIFICATION

GHS Classification		
	Skin Irritation	• Category 2
	Acute Toxicity, Inhalative	• Category 4
	Sensitization of Respiratory Airways	• Category 1
	Eye Irritation	• Category 2
	Carcinogenicity	• Category 2
	Sensitization of the Skin	• Category 1
	Specific Target Organ Toxicity (Repeated Exposure)	• Category 2
	Specific Target Organ Toxicity (Single Exposure)	• Category 3
GHS Label	*Pictogram* 	
Signal Word	• Danger and Warning	
Hazard Statement(s)		
	• May cause an allergic skin reaction.	
	• Causes skin irritation.	
	• Harmful if inhaled.	
	• Causes serious eye irritation.	
	• May cause respiratory irritation.	
	• May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
	• May cause damage to organs through prolonged or repeated exposure.	
	• Suspected of causing cancer.	

2. HAZARDS IDENTIFICATION (CONTINUED)

Precautionary Statements	
	• Do not breathe fume/gas/mist/vapors/spray.
	• Wear protective gloves/eye protection/face protection.
	• IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
	• IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	• IF ON SKIN: Wash with plenty of soap and water.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components	Cas #	Weight %
Diphenylmethane-4,4'-diisocyanate (MDI)	• 101-68-8	• Trade Secret
MDI Mixed Isomers	• 26447-40-5	• Trade Secret
P-MDI	• 9016-87-9	• Trade Secret

4. FIRST AID MEASURE

First Aid Procedures	
General	• Remove contaminated clothing.
Inhalation	• Remove affected individual to fresh air and keep person calm. Assist in breathing if necessary. Immediate medical attention required.
Skin Contact	• Wash affected areas with soap and water. Seek medical attention for irritation.
Eye Contact	• Rinse for at least 15 minutes with water. Immediate medical attention required.
Ingestion	• Rinse mouth and drink plenty of water. Do not induce vomiting. Immediate medical attention required.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	• Water, dry chemicals, CO_2
Unsuitable Extinguishing Media	• High volume water jet
Special hazards arising from the chemical	• At temperatures above 400°F, MDI can polymerize/decompose causing pressure build-up in closed containers and possibly rupture. Avoid water contamination in closed containers which may cause rupture (CO_2 is evolved).
Precautions for Fire-Fighters	• Firefighters should be equipped with self-contained breathing apparatus and turnout gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures	• Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.
Environmental Precautions	• Do not discharge into drains/surface waters/groundwater.
Methods and material for containment and cleanup	• Remove mechanically; cover remainder with wet, absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO_2). Keep damp in a safe ventilated area for several days.
Spill area can be decontaminated with the following recommended decontamination solution	• Decontamination Solution #1: 8-10% sodium carbonate and 2% liquid soap in water • Decontamination Solution #2: Liquid/yellow soap (potassium soap with ~15% anionic surfactant): 20 ml; Water: 700 ml; Polyethylene glycol (PEG 400): 350 ml

7. HANDLING AND STORAGE

Precautions for safe handling	• Provide sufficient air exchange and/or exhaust in work rooms. Occupational exposure limits should not be exceeded (refer to Section 8). Contact with skin and eyes and inhalation of vapors must be avoided. Keep away from foodstuffs, drinks, and tobacco. Wash hands before breaks and at end of work.
Conditions for safe storage, including any incompatibilities	• Keep container tightly closed and protect against moisture. Segregate from bases. Store from 32°F – 110°F.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits	Type	Value
P-MDI	• OSHA PEL	• CLV 0.02 ppm 0.2 mg/m^3
Diphenylmethane-4,4'-diisocyanate (MDI)	• OSHA PEL	• CLV 0.02 ppm 0.2 mg/m^3
Exposure Controls		
Respiratory Protection	• Respiratory protection required in insufficiently ventilated working areas and during spraying. An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter is recommended.	
Hand, Eye, Skin, Body Protection	• Chemical resistant protective gloves should be worn to prevent all skin contact. Wear eye/face protection. Wear suitable protective clothing.	

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance	• Liquid
Color	• Brown
Odor	• Slightly aromatic
Odor Threshold	• Not Established
pH	• Not Established
Melting Point/Freezing Point	• 3°C
Boiling Point/Boiling Range	• 625°F
Flash Point	• 390°F
Evaporation Rate	• Not Established
Flammability	• N/A
Upper/Lower Flammability or Explosive Limits	• N/A
Vapor Pressure	• 0.00016 mmHg
Vapor Density	• Not Established
Relative Density	• 1.118
Solubility(ies)	• Reacts with Water
Partition cCoefficient (Noctanol/Water)	• Not Established
Auto-ignition Temperature	• N/A
Decomposition Temperature	• Not Established

10. CHEMICAL STABILITY & REACTIVITY INFORMATION

Chemical Stability	• Polymerizes at about 20°C with evolution of CO_2
Possibility of Hazardous Reactions	• Exothermic reaction with amines and alcohols; reacts with water forming CO_2; in closed containers, risk of bursting owing to increase of pressure
Conditions to Avoid	• Avoid moisture
Incompatible Materials	• Water, alcohols, strong bases, amines
Hazardous Decomposition Products	• By high heat or fire; CO, CO_2, NO_x, benzene, toluene, aliphatic fragments and traces of HCN.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity	• LC50: 490mg/kg , vapor, 4hr rat
Chronic Toxicity	• 2 years, inhalation; NOAEL: 0.2mg/m^3, (rat, Male/Female, 6hrs/day 5 days/week)
Likely Routes of Exposure	• Skin, inhalation
Symptoms related to physical, chemical and toxicological characteristics	• Minor skin irritation; asthma-like symptoms
Delayed and immediate effects and chronic effects from short and long-term exposure	• Possible sensitization
Numerical Toxicity Measures	• Not available

12. ECOLOGICAL INFORMATION

Ecotoxicity	• LC0: >1,000mg/l (Zebra fish 96 hrs) LC0: >3,000mg.l (Killifish 96hrs)
Persistence and Degradability	• 0%
Bioaccumulative Potential	• Does not bioaccumulate.
Mobility in Soil	

13. DISPOSAL CONSIDERATIONS

Waste Disposal	• Incinerate or dispose of in a licensed facility. Do not discharge substance/product into sewer system. Do not burn empty drums or cut open with gas or an electric torch as toxic decomposition products may be liberated. Do not reuse empty containers.

14. DISPOSAL CONSIDERATIONS

Land Transport		
	USDOT	• Not classified as dangerous good
	China	• Not classified as dangerous good
Sea Transport	*IMDG*	• Not classified as dangerous good
Air Transport	*IATA/ICAO*	• Not classified as dangerous good
Further Information	• DOT: This product is regulated if the amount in a single receptacle exceeds the Reportable Quantity (RQ). Refer to Section 15 for the RQ of this product.	

15. REGULATORY INFORMATION

Relevant Safety, Health, and Environmental Regulations	
Inventory Status	• TSCA listed
US Regulations	• Not regulated
US Superfund Amendments and Reauthorization Act (SARA) Title III Section 313 information	• Methylene Bis Phenylisocyanate 101-68-8 5000 lbs. See SDS – A Component (Same as Diphenylmethane diisocyanate (MDI) Polymeric Diphenylmethane diisocyanate 9016-87-9 See SDS – A Component

16. OTHER INFORMATION

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Issue Date	• Not available.
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