

Safety Data Sheet

Material Name: OlyBond 500, Part 1 (Dark Brown)

*** Section 1 - Product and Company Identification ***

Manufacturer Information

ITW ER Systems
6900 Bleck Road
Rockford, MN 55373

Phone: 1-800-403-7747

Emergency # 1-800-535-5053 Infotrac

*** Section 2 - Hazards Identification ***

GHS Classification:

Acute Toxicity Inhalation - Category 4
Skin Sensitization - Category 1
Skin Corrosion/Irritation - Category 2
Serious Eye Damage/Eye Irritation - Category 2
Carcinogenicity - Category 2
Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3
Specific Target Organ Systemic Toxicity (STOT) - Repeat Exposure Category 2

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

Danger

Hazard Statements

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause respiratory irritation.
May cause damage to organs (lungs) through prolonged or repeated exposure.
Suspected of causing cancer.

Precautionary Statements

Prevention

Do not breathe dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well-ventilated area.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood

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Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

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 advice/attention.
Get medical advice/attention if you feel unwell.

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
9016-87-9	Isocyanic acid, polymethylenepolyphenylene ester	<55
101-68-8	4,4'-Methylenediphenyl diisocyanate	38
26447-40-5	1,1'-Methylenebis (isocyanato-) benzene	<10

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get immediate medical attention.

First Aid: Skin

Remove contaminated clothing and shoes. Wash affected area immediately with large amounts of soap and water. Get medical attention immediately.

First Aid: Ingestion

If swallowed, immediately give 2 glasses of water. Do not induce vomiting. Contact a physician. Never give anything by mouth to an unconscious person. Get immediate medical attention.

First Aid: Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get immediate medical attention.

First Aid: Notes to Physician

There is no antidote to counteract the effects of MDI. Care should be supportive and treatment should be based on the judgment of the physician in response to the action of the patient.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Material will burn in a fire. Reacts with water to form carbon dioxide gas, which may create excessive pressure in containers. Reacts exothermically with polyol and alcohols. Reacts exothermically and possibly violently with acids, amines and alkaline solutions.

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Hazardous Combustion Products

Nitrous gases, carbon monoxide, carbon dioxide, fumes/smoke, isocyanate vapours.

Extinguishing Media

Water, carbon dioxide, foam or dry powder.

Unsuitable Extinguishing Media

None.

Fire Fighting Equipment/Instructions

Firefighters should wear full protective gear. At temperatures greater than 400 F material may polymerize causing pressure build up in closed containers. Explosive rupture is possible. Use cold water to cool containers exposed to fire.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Contain spilled material. Absorb spills with inert material. Place in closed containers but do not seal.

Materials and Methods for Clean-Up

Absorb spill with inert material (e g, dry sand or earth), then place in a chemical waste container. Place in closed containers but do not seal. Neutralize spill with mixture of 90% water, 3-8% ammonia and 2-7% detergent. Add at a 10 to 1 ratio and let stand for 48 hrs allowing CO2 to escape.

Emergency Measures

Evacuate non-emergency personnel to a safe area.

Personal Precautions and Protective Equipment

Avoid breathing vapor. Ventilate spill area. Wear safety goggles. Wear appropriate personal protective equipment.

Environmental Precautions

Do not discharge into drains/surface waters/groundwater.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wash hands thoroughly after handling. Do not reuse this container. Provide appropriate ventilation. Close container after each use. Keep container closed to avoid contamination. All handling equipment should be electrically grounded. Keep out of reach of children.

Storage Procedures

Avoid extreme temperatures. Keep container closed when not in use. Store in a cool dry place. Protect from moisture.

RECOMMENDED STORAGE TEMPERATURE

Minimum: 12.8 C (55.0 F)

Maximum: 29.4 C (84.9 F)

SHELF LIFE: (in original, sealed containers) 18 months @ 29.4 C

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Incompatibilities

Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols, acids, alkalies, amines. Risk of exothermic reaction. Risk of violent reaction. Contact with certain rubbers and plastics can cause brittleness of the substance with subsequent loss in strength.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Isocyanic acid, polymethylenepolyphenylene ester (-)

Germany: 0.05 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, inhalable fraction, as MDI, exposure factor 1)
0.05 mg/m3 TWA MAK (inhalable fraction)
0.05 mg/m3 Peak (inhalable fraction)
Spain: skin - potential for cutaneous exposure (with Polymeric content)

4,4'-Methylenediphenyl diisocyanate (202-966-0)

ACGIH: 0.005 ppm TWA
Austria: 0.01 ppm STEL [KZW] (8 X 5 min, listed under Diphenylmethane -diisocyanate); 0.1 mg/m3 STEL [KZW] (8 X 5 min, listed under Diphenylmethane -diisocyanate)
0.005 ppm TWA [TMW]; 0.05 mg/m3 TWA [TMW]
Belgium: 0.005 ppm TWA; 0.052 mg/m3 TWA
Denmark: 0.005 ppm TWA; 0.05 mg/m3 TWA
France: 0.02 ppm STEL [VLCT] (5 min); 0.2 mg/m3 STEL [VLCT] (5 min)
0.01 ppm TWA [VME]; 0.1 mg/m3 TWA [VME]
Germany: 0.05 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, ceiling factor 2, exposure factor 1)
10 µg/g Medium: urine Time: end of shift Parameter: 4,4'-Diaminodiphenylmethane
0.05 mg/m3 TWA MAK (see also polymeric MDI, inhalable fraction)
0.05 mg/m3 Peak (inhalable fraction)
Greece: 0.02 ppm STEL; 0.2 mg/m3 STEL
0.02 ppm TWA; 0.2 mg/m3 TWA
Ireland: 0.07 mg/m3 STEL (as NCO)
0.02 mg/m3 TWA (as NCO)
Sensitizer
Portugal: 0.005 ppm TWA [VLE-MP]
Spain: 0.005 ppm TWA [VLA-ED]; 0.052 mg/m3 TWA [VLA-ED]
sensitizer
Sweden: 0.002 ppm LLV; 0.03 mg/m3 LLV
0.005 ppm CLV (5 min); 0.05 mg/m3 CLV (5 min)

1,1'-Methylenebis (isocyanato-) benzene (247-714-0)

Austria: 0.01 ppm STEL [KZW] (all isomers, 8 X 5 min); 0.1 mg/m3 STEL [KZW] (all isomers, 8 X 5 min)

Engineering Measures

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal Protective Equipment: Respiratory

If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

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Personal Protective Equipment: Hands

Selection of specific items such as gloves, boots, apron or full-body suit will depend on operation.

Personal Protective Equipment: Eyes

Wear safety glasses.

Personal Protective Equipment: Skin and Body

Normal work clothing (long sleeved shirts and long pants) is recommended.

*** Section 9 - Physical & Chemical Properties ***

Appearance:	Dark Brown	Odor:	Aromatic
Physical State:	Liquid	pH:	ND
Vapor Pressure:	0.00001 mm Hg @ 20 C	Vapor Density:	ND
Boiling Point:	200 C @ 5 mm Hg	Melting Point:	ND
Solubility (H2O):	Reacts with water	Specific Gravity:	1.22
Freezing Point:	3 C	Evaporation Rate:	ND
VOC:	ND	Viscosity:	150-350 cps
Bulk Density:	10.16 lb/g	Octanol/H2O Coeff.:	ND
Flash Point:	220 C (428 F)	Flash Point Method:	COC
Upper Flammability Limit	ND	Lower Flammability Limit	ND
(UFL):		(LFL):	
Burning Rate:	ND	Auto Ignition:	ND

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid moisture.

Incompatible Products

Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols, acids, alkalies, amines. Risk of exothermic reaction. Risk of violent reaction. Contact with certain rubbers and plastics can cause brittleness of the substance with subsequent loss in strength.

Hazardous Decomposition Products

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

*** Section 11 - Toxicological Information ***

Acute Toxicity

Component Analysis - LD50/LC50

Isocyanic acid, polymethylenepolyphenylene ester (9016-87-9)

Inhalation LC50 Rat 490 mg/m³ 4 h; Oral LD50 Rat 49 g/kg; Dermal LD50 Rabbit >9400 mg/kg

4,4'-Methylenediphenyl diisocyanate (101-68-8)

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Oral LD50 Rat 9200 mg/kg

1,1'-Methylenebis (isocyanato-) benzene (26447-40-5)

Inhalation LC50 Rat 0.369 mg/L 4 h; Oral LD50 Rat >7400 mg/kg; Dermal LD50 Rabbit >6200 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

Causes skin burns and irritation.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Contact may cause eye irritation. May result in corneal opacity (clouding of the eye surface).

Potential Health Effects: Ingestion

Harmful if swallowed. Can burn mouth, throat, and stomach. Gastrointestinal symptoms include nausea, vomiting and abdominal pain.

Potential Health Effects: Inhalation

Inhalation of MDI vapors may cause irritation of the mucous membranes of the nose, throat or trachea, breathlessness, chest discomfort, difficult breathing and reduced pulmonary function.

Respiratory Organs Sensitization/Skin Sensitization

Causes possible allergic reaction. In those who have developed skin sensitization, these symptoms can develop as a result of contact with a very small amount of the liquid material.

Generative Cell Mutagenicity

This product is not reported to have any mutagenic effects.

Carcinogenicity

A: General Product Information

Suspected of causing cancer.

B: Component Carcinogenicity

Isocyanic acid, polymethylenepolyphenylene ester (9016-87-9)

IARC: Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))

4,4'-Methylenediphenyl diisocyanate (101-68-8)

IARC: Monograph 71 [1999]; Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))

1,1'-Methylenebis (isocyanato-) benzene (26447-40-5)

IARC: Monograph 71 [1999]; Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))

Reproductive Toxicity

No birth defects or teratogenic effects were reported in a teratology study with rats exposed to 1, 4 and 12mg/m³ polymeric MDI for 6 hr/day on days 6-15 of gestation. Embryotoxicity and fetotoxicity was reported at the top dose in the presence of maternal toxicity.

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Specified Target Organ General Toxicity: Single Exposure

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 occupational exposure limits. These symptoms, which include chest tightness, wheezing, cough, shortness of breath, or asthmatic attack, could be immediate or delayed up to several hours after exposure. Chronic overexposure to isocyanates has also been reported to cause lung damage, including a decrease in lung function, which may be permanent. Sensitization may be either temporary or permanent. Prolonged contact can cause reddening, swelling, rash, scaling, or blistering. In those who have developed skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material.

Specified Target Organ General Toxicity: Repeated Exposure

May cause damage to organs (lungs) through prolonged or repeated exposure.

Aspiration Respiratory Organs Hazard

This product is not reported to have any aspiration hazard.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

This product is not reported to have any ecotoxicity effects.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

1,1'-Methylenebis (isocyanato-) benzene (26447-40-5)

Test & Species

96 Hr EC50 <i>Skeletonema costatum</i>	3230 mg/L
24 Hr EC50 <i>Daphnia magna</i>	>1000 mg/L

Conditions

Persistence/Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility in Soil

No information available for the product.

*** Section 13 - Disposal Considerations ***

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 14 - Transportation Information ***

IATA Information

Shipping Name: Not Regulated

ICAO Information

Shipping Name: Not Regulated

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IMDG Information

Shipping Name: Not Regulated

*** Section 15 - Regulatory Information ***

Regulatory Information

EU MARKING AND LABELLING:

Symbol(s):

Xn

Risk Phrases:

R36/37/38 Irritating to eyes, respiratory system and skin.

R42 May cause sensitization by inhalation.

R40 Possible risks of irreversible effects. Limited evidence of a carcinogenic effect.

Substance Analysis - Inventory

Component/CAS	EC #	EEC	CAN	TSCA
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	-	No	DSL	Yes
4,4'-Methylenediphenyl diisocyanate 101-68-8	202-966-0	EINECS	DSL	Yes
1,1'-Methylenebis (isocyanato-) benzene 26447-40-5	247-714-0	EINECS	DSL	Yes

*** Section 16 - Other Information ***

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

Literature References

None

End of Sheet