

MATERIAL SAFETY DATA SHEET

MSDS Name: KALEX 14536 PART A
MSDS Number: 14536-1
Version Number: D
MSDS Date: JUL-05-2005
Page Number: 1 of 6

SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name: KALEX 14536 PART A
Hazard Rating: Health: 3 Fire: 1 Reactivity: 1 PPI:

Company Identification: ROYAL ADHESIVES & SEALANTS LLC
600 CORTLANDT STREET
BELLEVILLE NJ 07109-3384

Contact: BRUCE WEINMAN
Telephone/Fax: (973) 751-3000 (973) 751-8407
Emergency Phone (24 Hour): ENVIRONMENTAL SPECIALIST
(973) 751-3000
Chemtrec (24 Hour): (800) 424-9300
Preparer: B. WEINMAN
ENVIRONMENTAL SPECIALIST

Product Class: POLYMERIC DIISOCYANATE
Trade Name: KALEX 14536 PART A
Product Code: 14536-1

SECTION II - INGREDIENT AND HAZARD INFORMATION

Hazardous Ingredients CAS Number

METHYLENE BIS (PHENYLISOCYANATE) (MDI) 101-68-8

*** ALL Ingredients in this product are listed in the T.S.C.A. Inventory

SECTION III - HAZARDS IDENTIFICATION

EYE CONTACT:

MAY CAUSE MODERATE EYE IRRITATION. MAY CAUSE VERY SLIGHT TRANSIENT (TEMPORARY) CORNEAL INJURY.

SKIN CONTACT:

PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION IN SUSCEPTIBLE INDIVIDUALS. ANIMAL STUDIES HAVE SHOWN THAT SKIN CONTACT WITH ISOCYANATES MAY PLAY A ROLE IN RESPIRATORY SENSITIZATION. MAY STAIN SKIN. A SINGLE PROLONGED EXPOSURE IS NOT LIKELY TO RESULT IN THE MATERIAL BEING

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ABSORBED IN HARMFUL AMOUNTS.

INHALATION:

AT ROOM TEMPERATURE, VAPORS ARE MINIMAL DUE TO LOW VAPOR PRESSURE. HOWEVER, CERTAIN OPERATIONS MAY GENERATE VAPOR OR AEROSOL CONCENTRATIONS SUFFICIENT TO CAUSE IRRITATION OR OTHER ADVERSE EFFECTS. SUCH OPERATIONS INCLUDE THOSE IN WHICH THE MATERIAL IS HEATED, SPRAYED OR OTHERWISE MECHANICALLY DISPERSED SUCH AS DRUMMING, VENTING OR PUMPING. EXCESSIVE EXPOSURE MAY CAUSE IRRITATION TO THE UPPER RESPIRATORY TRACT AND LUNGS, AND PULMONARY EDEMA. MAY CAUSE RESPIRATORY SENSITIZATION IN SUSCEPTIBLE INDIVIDUALS. MDI CONCENTRATIONS BELOW THE EXPOSURE GUIDELINES MAY CAUSE ALLERGIC RESPIRATORY REACTIONS IN INDIVIDUALS ALREADY SENSITIZED. SYMPTOMS MAY INCLUDE COUGHING, DIFFICULT BREATHING AND A FEELING OF TIGHTNESS IN THE CHEST. EFFECTS MAY BE DELAYED. DECREASED LUNG FUNCTION HAS BEEN ASSOCIATED WITH OVEREXPOSURE TO ISOCYANATES.

INGESTION:

SINGLE DOSE ORAL TOXICITY IS CONSIDERED TO BE LOW.

HEALTH HAZARD INFORMATION:

OTHER HEALTH INFORMATION (POLYMERIC MDI):

TISSUE INJURY IN THE UPPER RESPIRATORY TRACT AND LUNGS HAS BEEN OBSERVED IN LABORATORY ANIMALS AFTER REPEATED EXCESSIVE EXPOSURES TO MDI/POLYMERIC MDI AEROSOLS.

LUNG TUMORS HAVE BEEN OBSERVED IN LABORATORY ANIMALS EXPOSED TO AEROSOL DROPLETS OF MDI/POLYMERIC MDI FOR THEIR LIFETIME. TUMORS OCCURRED CONCURRENTLY WITH RESPIRATORY IRRITATION AND LUNG INJURY. CURRENT EXPOSURE GUIDELINES ARE EXPECTED TO PROTECT AGAINST THESE EFFECTS REPORTED FOR MDI.

IN LABORATORY ANIMALS, MDI/POLYMERIC MDI DID NOT PRODUCE BIRTH DEFECTS; OTHER FETAL EFFECTS OCCURRED ONLY AT HIGH DOSES WHICH WERE TOXIC TO THE MOTHER.

SECTION IV - FIRST AID MEASURES

EYES:

WASH WITH FLOWING WATER IMMEDIATELY AND CONTINUOUSLY FOR 15 MINUTES. CONSULT MEDICAL PERSONNEL.

SKIN:

WASH WITH SOAP AND PLENTY OF WARM WATER.

INHALATION:

REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION.

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IF BREATHING IS DIFFICULT, OXYGEN SHOULD BE ADMINISTERED BY QUALIFIED PERSONNEL. CALL A PHYSICIAN OR TRANSPORT TO A MEDICAL FACILITY.

INGESTION:

IF SWALLOWED SEEK MEDICAL ATTENTION. DO NOT INDUCE VOMITING UNLESS DIRECTED TO DO SO BY MEDICAL PERSONNEL. GIVE NOTHING BY MOUTH IF PERSON IS UNCONSCIOUS OR HAVING CONVULSIONS.

SECTION V - FIRE-FIGHTING MEASURES

Flammability Class: IIIB
Flash Range: Not Available
Pensky-Martens Closed Cup ASTM D 93 >200F
Explosive Range: Not Available

FIRE-FIGHTING MEASURES:

WATER SPRAY
DRY CHEMICAL
FOAM

CARBON DIOXIDE
USE FULL TURNOUT GEAR INCLUDING SELF-CONTAINED BREATHING APPARATUS (SCBA).

DURING A FIRE, POLYMERIC DIPHENYLMETHANE DIISOCYANATE (MDI) VAPORS AND OTHER IRRITATING, HIGHLY TOXIC GASES MAY BE GENERATED BY THERMAL DECOMPOSITION OR COMBUSTION. AT TEMPERATURES GREATER THAN 400F, POLYMERIC MDI CAN POLYMERIZE AND DECOMPOSE WHICH CAN CAUSE PRESSURE BUILD-UP IN CLOSED CONTAINERS. EXPLOSIVE RUPTURE IS POSSIBLE. THEREFORE, USE COLD WATER TO COOL FIRE-EXPOSED CONTAINERS.

SECTION VI - ACCIDENTAL RELEASE MEASURES

SPILLS:

SHUT OFF ALL IGNITION SOURCES AND DIKE SPILL TO CONTAIN AND PREVENT ENTRY INTO SEWERS OR WATER SOURCES. ABSORB SPILLED MATERIAL AND PLACE INTO OPEN TOP CONTAINERS. DO NOT MAKE PRESSURE TIGHT. TRANSPORT TO A WELL-VENTILATED AREA (OUTSIDE) AND TREAT WITH NEUTRALIZING SOLUTION CONSISTING OF A MIXTURE OF 85% WATER, 5% CONCENTRATED AMMONIUM HYDROXIDE AND 10% SODIUM CARBONATE. ADD ABOUT 10 PARTS OF NEUTRALIZER PER PART OF ISO-CYANATE WITH MIXING. ALLOW TO STAND FOR 48 HOURS LETTING EVOLVED

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CARBON DIOXIDE TO ESCAPE. IF TEMPORARY CONTROL OF ISOCYANATE VAPOR IS REQUIRED, A BLANKET OF PROTEIN FOAM (AVAILABLE AT MOST FIRE DEPARTMENTS) MAY BE PLACED OVER THE SPILL. CONTROLLED INCINERATION. HANDLE IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL ENVIRONMENTAL PROTECTION AGENCY REGULATIONS.

SECTION VII - HANDLING AND STORAGE

STORAGE CONDITIONS:

STORE IN TIGHTLY CLOSED CONTAINERS TO PREVENT MOISTURE CONTAMINATION. DO NOT RESEAL IF CONTAMINATION IS SUSPECTED. OPTIMUM STORAGE TEMPERATURE IS 80F TO 100F.

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
METHYLENE BIS (PHENYLISOCYANATE) (MDI)	0.0050 PPM	N/est	N/est	N/est	0.0200 PPM

PERSONAL PROTECTIVE EQUIPMENT:

ATMOSPHERIC LEVELS SHOULD BE MAINTAINED BELOW THE EXPOSURE GUIDE LINE. WHEN RESPIRATORY PROTECTION IS REQUIRED FOR CERTAIN OPERATIONS, USE AN APPROVED POSITIVE-PRESSURE SUPPLIED-AIR RESPIRATOR. FOR EMERGENCY AND OTHER CONDITIONS WHERE THE EXPOSURE GUIDELINE MAY BE GREATLY EXCEEDED, USE AN APPROVED POSITIVE-PRESSURE SELF-CONTAINED BREATHING APPARATUS OR POSITIVE-PRESSURE AIRLINE WITH AUXILIARY SELF-CONTAINED AIR SUPPLY. THIS PRODUCT HAS POOR WARNING PROPERTIES, SINCE RECOGNITION OF AN ODOR IS FAR ABOVE THE TLV. OBSERVE OSHA REGULATIONS FOR RESPIRATOR USE (29 CFR 1910.134). LOCAL EXHAUST IS RECOMMENDED. USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS FACESHIELD, GLOVES, OR APRON WILL DEPEND ON OPERATION. CHEMICAL SPLASH GOGGLES. IN A SPLASH ENVIRONMENT CHEMICAL GOGGLES AND FULL FACE SHIELD SHOULD BE WORN. CHEMICAL RESISTANT PROTECTIVE CLOTHING TO MINIMIZE EXPOSURE. EYE WASH STATION AND SAFETY SHOWER SHOULD BE AVAILABLE FOR EMERGENCY USE.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

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Form: LIQUID
Appearance/Color: BROWN
Boiling Range: Not Available
Vapor Pressure (mmHg): Not Available
Melting Point: Not Available
Evaporation Rate: Unavailable

% Volatile: Not Available
Specific Gravity: 1.22

SECTION X - STABILITY AND REACTIVITY

Stability: This product is stable
Hazardous Polymerization: Hazardous polymerization may occur

SECTION XI - TOXICOLOGICAL INFORMATION

Lethal Dose Information (ppm)	Oral	Skin	Inhale	LC50
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SECTION XII - ECOLOGICAL INFORMATION

NO INFORMATION IS AVAILABLE.

SECTION XIII - DISPOSAL CONSIDERATIONS

RCRA CONSIDERATIONS:

THIS PRODUCT IF DISPOSED OF IN THE PURCHASED FORM IS NOT CONSIDERED RCRA HAZARDOUS.

SECTION XIV - TRANSPORT INFORMATION

UN Number
UN Pack Group
UN Class
ICAO/IATA Class: NOT REGULATED
IMDG Class: NOT REGULATED
Shipping Name: PLASTIC LIQUID, NOS
ADR/RID Class: NOT REGULATED
DOT Hazard Class
Technical Name

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SECTION XV - REGULATORY INFORMATION

SARA TITLE III SECTION 313:

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR 372:

Chemical Name	CAS Number	%
METHYLENE BIS (PHENYLISOCYANATE) (MDI)	101-68-8	40 - 70

TSCA STATUS:

ALL INGREDIENTS CONTAINED IN THIS PRODUCT ARE ON THE TSCA INVENTORY.

SECTION XVI - OTHER INFORMATION

DISCLAIMER:

ALTHOUGH THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN (HEREINAFTER "INFORMATION") ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE CORRECT AS OF THE DATE HEREOF, ROYAL ADHESIVES & SEALANTS LLC MAKES NO REPRESENTATIONS AS TO THE COMPLETENESS OR ACCURACY THEREOF. INFORMATION IS SUPPLIED UPON THE CONDITION THAT THE PERSONS RECEIVING SAME WILL MAKE THEIR OWN DETERMINATION AS TO ITS SUITABILITY FOR THEIR PURPOSES PRIOR TO USE. IN NO EVENT WILL ROYAL ADHESIVES & SEALANTS LLC BE RESPONSIBLE FOR DAMAGES OF ANY NATURE WHATSOEVER RESULTING FROM THE USE OF OR RELIANCE UPON INFORMATION. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OF ANY NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

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MSDS Date: JUL-05-2005
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SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name: KALEX 14536 PART B
Hazard Rating: Health: 1 Fire: 1 Reactivity: 0 PPI:

Company Identification: ROYAL ADHESIVES & SEALANTS LLC
600 CORTLANDT STREET
BELLEVILLE NJ 07109-3384

Contact: BRUCE WEINMAN
Telephone/Fax: (973) 751-3000 (973) 751-8407
Emergency Phone (24 Hour): ENVIRONMENTAL SPECIALIST
(973) 751-3000
Chemtrec (24 Hour): (800) 424-9300
Preparer: B. WEINMAN
ENVIRONMENTAL SPECIALIST

Product Class: POLYOL
Trade Name: KALEX 14536 PART B
Product Code: 14536-2

SECTION II - INGREDIENT AND HAZARD INFORMATION

Hazardous Ingredients	CAS Number
GROUND LIMESTONE	TRADE SECRET
POLYOL	TRADE SECRET
TRADE SECRET	TRADE SECRET

*** ALL Ingredients in this product are listed in the T.S.C.A. Inventory

SECTION III - HAZARDS IDENTIFICATION

EYE CONTACT:
MAY CAUSE MINOR EYE IRRITATION.
SKIN CONTACT:
MAY CAUSE SLIGHT SKIN IRRITATION.
INHALATION:

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THIS PRODUCT IS NOT EXPECTED TO BE AN INHALATION HAZARD.

INGESTION:

NO SIGNIFICANT SIGNS OR SYMPTOMS INDICATIVE OF ANY ADVERSE HEALTH EFFECT ARE EXPECTED TO OCCUR AS A RESULT OF INGESTION.

SECTION IV - FIRST AID MEASURES

EYES:

IMMEDIATELY WASH WITH RUNNING WATER FOR AT LEAST 15 MINUTES. GET IMMEDIATE MEDICAL ATTENTION.

SKIN:

WASH AFFECTED AREAS WITH SOAP AND PLENTY OF WATER. REMOVE AND LAUNDRER CONTAMINATED CLOTHING BEFORE REUSE. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS.

INHALATION:

MOVE PERSON TO FRESH AIR. AID IN BREATHING, GIVE OXYGEN IF NECESSARY. GET IMMEDIATE MEDICAL ATTENTION.

INGESTION:

DRINK TWO GLASSES OF WATER AND IMMEDIATELY INDUCE VOMITING. NEVER GIVE FLUIDS IF VICTIM IS UNCONSCIOUS OR HAVING CONVULSIONS. SEEK IMMEDIATE MEDICAL ATTENTION.

SECTION V - FIRE-FIGHTING MEASURES

Flammability Class	IIIB
Flash Range:	Not Available
	Pensky-Martens Closed Cup ASTM D 93 >200F
Explosive Range:	Not Available

FIRE-FIGHTING MEASURES:

USE WATER FOG, DRY CHEMICAL, FOAM, CARBON DIOXIDE. WATER OR FOAM MAY CAUSE FROTHING. USE WATER TO COOL FIRE-EXPOSED CONTAINERS. IF A LEAK OR SPILL HAS NOT IGNITED, USE WATER SPRAY TO DISPERSE THE VAPORS AND PROVIDE PROTECTION TO THE PEOPLE ATTEMPTING TO STOP THE LEAK. USE FULL TURNOUT GEAR INCLUDING SELF-CONTAINED BREATHING APPARATUS (SCBA). FIRE EXPOSED CONTAINERS MAY BUILD PRESSURE AND BURST.

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SECTION VI - ACCIDENTAL RELEASE MEASURES

SPILLS:

SHUT OFF ALL IGNITION SOURCES AND DIKE SPILL TO CONTAIN AND PREVENT ENTRY INTO SEWERS OR WATER SOURCES. ABSORB SPILLED MATERIAL AND PLACE IN CLOSED CONTAINER FOR DISPOSAL. CONTROLLED INCINERATION. HANDLE IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL ENVIRONMENTAL PROTECTION AGENCY REGULATIONS.

SECTION VII - HANDLING AND STORAGE

STORAGE CONDITIONS:

STORE IN A COOL, DRY PLACE. KEEP AWAY FROM OPEN FLAMES AND HIGH TEMPERATURES.

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
GROUND LIMESTONE	10.0000 mg/M3	N/est	N/est	N/est	N/est
POLYOL	N/est	N/est	N/est	N/est	N/est
TRADE SECRET	N/est	N/est	N/est	N/est	N/est

PERSONAL PROTECTIVE EQUIPMENT:

IN THE ABSENCE OF PROPER ENVIRONMENTAL CONTROL OR VENTILATION, WEAR A RESPIRATOR APPROVED BY NIOSH/MSHA WHENEVER EXPOSED TO FUMES OR VAPORS. COMPLY WITH OSHA 1910.134 (CFR). SELF-CONTAINED BREATHING APPARATUS IN HIGH CONCENTRATIONS. LOCAL EXHAUST IS RECOMMENDED. USE CHEMICAL RESISTANT PROTECTIVE GLOVES, CHEMICAL SPLASH GOGGLES. CHEMICAL RESISTANT PROTECTIVE CLOTHING TO MINIMIZE EXPOSURE; CHEMICAL SPLASH APRON, FULL FACE SHIELD. EYE WASH STATION AND SAFETY SHOWER SHOULD BE AVAILABLE FOR EMERGENCY USE.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Form: LIQUID
Boiling Range: Not Available

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Vapor Pressure (mmHg): Not Available
Melting Point: Not Applicable
Evaporation Rate: Unavailable

% Volatile: Not Available
Specific Gravity: 1.75

SECTION X - STABILITY AND REACTIVITY

Stability: This product is stable
Hazardous Polymerization: Hazardous polymerization will not occur

REACTIVITY:

INCOMPATIBILITY:
OXIDIZING AGENTS, WATER.
CONDITIONS TO AVOID:
HIGH TEMPERATURES.
HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE, CARBON DIOXIDE.

SECTION XI - TOXICOLOGICAL INFORMATION

Lethal Dose Information (ppm)	Oral	Skin	Inhale	LC50
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SECTION XII - ECOLOGICAL INFORMATION

NO INFORMATION IS AVAILABLE.

SECTION XIII - DISPOSAL CONSIDERATIONS

RCRA CONSIDERATIONS:

THIS PRODUCT IF DISPOSED OF IN THE PURCHASED FORM IS NOT CONSIDERED RCRA HAZARDOUS.

SECTION XIV - TRANSPORT INFORMATION

UN Number
UN Pack Group
UN Class
ICAO/IATA Class: NOT REGULATED
IMDG Class: NOT REGULATED

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Shipping Name: PLASTIC LIQUID, NOS
ADR/RID Class: NOT REGULATED
DOT Hazard Class:
Technical Name:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:

ALL INGREDIENTS CONTAINED IN THIS PRODUCT ARE ON THE TSCA INVENTORY.

SECTION XVI - OTHER INFORMATION

DISCLAIMER:

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