

MATERIAL SAFETY DATA SHEET

MSDS Name: KALEX 25111 PART A
MSDS Number: 25111-1
Version Number: E
MSDS Date: JUN-16-2005
Page Number: 1 of 6

SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name: KALEX 25111 PART A
Hazard Rating: Health: 3 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: POLYMERIC DIISOCYANATE
Trade Name: KALEX 25111 PART A
Product Code: 25111-1

SECTION II - INGREDIENT AND HAZARD INFORMATION

Hazardous Ingredients CAS Number

4,4'-DIPHENYLMETHANE DIISOCYANATE 101-68-8

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

SECTION III - HAZARDS IDENTIFICATION

HEALTH HAZARD INFORMATION:

EYE CONTACT:

MAY CAUSE EYE IRRITATION. CORNEAL DAMAGE POSSIBLE.

SKIN CONTACT:

MAY CAUSE IRRITATION. PROLONGED OR REPEATED CONTACT MAY CAUSE RASH, REDDENING, SWELLING, AND IN SOME CASES, SKIN SENSITIZATION.

INHALATION:

AT ROOM TEMPERATURE VAPORS ARE MINIMAL DUE TO LOW VAPOR PRESSURE. HOWEVER, HEATING OR SPRAYING MAY GENERATE VAPOR CONCENTRATIONS SUFFICIENT TO CAUSE IRRITATION. EXCESSIVE EXPOSURE MAY CAUSE

MATERIAL SAFETY DATA SHEET

MSDS Name: KALEX 25111 PART A
MSDS Number: 25111-1
Version Number E
MSDS Date: JUN-16-2005
Page Number: 2 of 6

IRRITATION OF THE EYES, UPPER RESPIRATORY TRACT, AND LUNGS. 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. IMPAIRED LUNG FUNCTION (DECREASED VENTILATORY CAPACITY) HAS BEEN ASSOCIATED WITH OVEREXPOSURE TO ISOCYANATES.

INGESTION:

MAY CAUSE IRRITATION AND CORROSIVE ACTION IN THE MOUTH, STOMACH TISSUE AND DIGESTIVE TRACT. SYMPTOMS CAN INCLUDE SORE THROAT, ABDOMINAL PAIN, NAUSEA, VOMITING AND DIARRHEA.

OTHER HEALTH INFORMATION (POLYMERIC MDI CAS 101-68-8):

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.

ANIMAL TESTS HAVE ALSO INDICATED THAT RESPIRATORY SENSITIZATION CAN RESULT FROM SKIN CONTACT WITH MDI. USE SKIN PROTECTION.

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

MATERIAL SAFETY DATA SHEET

MSDS Name: KALEX 25111 PART A
MSDS Number: 25111-1
Version Number E
MSDS Date: JUN-16-2005
Page Number: 3 of 6

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 IIIIB
Flash Range: Not Available
Pensky-Martens Closed Cup ASTM D 93
>400F
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 ISOCYANATE WITH MIXING. ALLOW TO STAND FOR 48 HOURS LETTING EVOLVED CARBON DIOXIDE TO ESCAPE. IF TEMPORARY CONTROL OF ISOCYANATE VAPOR IS REQUIRED, A BLANKET OF PROTEIN FOAM (AVAILABLE AT MOST

MATERIAL SAFETY DATA SHEET

MSDS Name: KALEX 25111 PART A
MSDS Number: 25111-1
Version Number: E
MSDS Date: JUN-16-2005
Page Number: 4 of 6

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
4,4'-DIPHENYLMETHANE DIISOCYANATE	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

Form: LIQUID
Boiling Range: Not Available

MATERIAL SAFETY DATA SHEET

MSDS Name: KALEX 25111 PART A
MSDS Number: 25111-1
Version Number: E
MSDS Date: JUN-16-2005
Page Number: 5 of 6

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

% Volatile: Not Available
Specific Gravity: 1.24

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
-------------------------------	------	------	--------	------

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	

SECTION XV - REGULATORY INFORMATION

MATERIAL SAFETY DATA SHEET

MSDS Name: KALEX 25111 PART A
MSDS Number: 25111-1
Version Number: E
MSDS Date: JUN-16-2005
Page Number: 6 of 6

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	%
4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	15 - 40

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.
