

MSDS Name: NORDBAK COMBO BEAD WEARING COM

Manufacturer Name: Loctite Corporation

KIT NUMBER: 96322

Address:

Street:1001 Trout Brook Crossing

City:Rocky Hill

State:Connecticut

Zip:06067

Product Codes:

96322

<b>Components:</b>	
<b>EPOXY STICK :</b>	
<b>TAPE :</b>	

ACTIO MSDS ID: 41070

**View Section : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16**

**SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION** EPOXY STICK

Manufacturer MSDS.: EPOXY STICK  
Manufacturer Name: Henkel Loctite, Inc.  
Product Description: Epoxy

**HMS**

Health Phone: (860) 571-5100  
Comments: Kit Name: Kit\_ID: 96322

Product Codes: EPOXY STICK

HEALTH	1
FIRE	1
REACTIVITY	0
PPE	

[To Top of page](#)



**SECTION 2 : COMPOSITION, INFORMATION ON INGREDIENTS** EPOXY STICK

Ingredient Name	CAS#	Ingredient Percent
TALC EC Index Number: 1	14807-96-6	30-40 by Weight
Epoxy resin EC Index Number: 1	25068-38-6	10-20 by Weight
Iron EC Index Number: 1	7439-89-6	15-23 by Weight
Glass EC Index Number: 1	65997-17-3	10-15 by Weight
Substituted aminophenol EC Index Number: 1	90-72-2	1-5 by Weight
SILICA, QUARTZ EC Index Number: 1	14808-60-7	1-5 by Weight

[To Top of page](#)



**SECTION 3 : HAZARDS IDENTIFICATION** EPOXY STICK

**Applies to all ingredients:**

Route of Exposure: Skin and eye contact, ingestion.  
Potential Health Effects: Possible eye and skin irritant. May cause allergic skin reaction. May irritate the intestinal tract if swallowed.  
Signs/Symptoms: May cause allergic skin reaction, eye irritation. May also cause intestinal tract discomfort if swallowed.  
Aggravation of Pre-Existing Conditions: None known  
Abbreviations: N/A Not Applicable; 2A; Probably carcinogenic to humans; AC2 ACGIH suspected human carcinogen; ALG Allergen; EYE Eyes; IMM Immune system; IRR Irritant; LUN Lung; RES Respiratory; SOM Some evidence of carcinogenicity

**TALC :**

OSHA Designation: NO  
NTP Designation: NO  
IARC Designation: N/A  
Target Organs: IRR; LUN; SOM;

**Epoxy resin :**

OSHA Designation: NO  
NTP Designation: NO  
IARC Designation: NO  
Target Organs: ALG; IRR;

**Iron :**

OSHA Designation: NO  
NTP Designation: NO  
IARC Designation: NO  
Target Organs: EYE; LUN;

**Glass :**

OSHA Designation: NO  
NTP Designation: NO  
IARC Designation: NO  
Target Organs: ALG; RES;

**Substituted aminophenol :**

OSHA Designation: NO  
NTP Designation: NO  
IARC Designation: NO  
Target Organs: ALG; IRR;

**SILICA, QUARTZ :**

OSHA Designation: NO  
NTP Designation: YES  
IARC Designation: 2A  
Target Organs: AC2; IMM; LUN; SOM;

[To Top of page](#)



**SECTION 4 : FIRST AID MEASURES** EPOXY STICK

Eye Contact: Flush at least 15 minutes with water. Obtain medical attention.  
Skin Contact: Immediately flush with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.  
Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.  
Ingestion: Do not induce vomiting. Obtain medical attention. Keep individual calm. Never give anything by mouth to an unconscious person.

[To Top of page](#)



**SECTION 5 : FIRE FIGHTING MEASURES** EPOXY STICK

Flash Point: None  
Upper Flammable or Explosive Limit: Not available  
Lower Flammable or Explosive Limit: Not available  
Extinguishing Media: Carbon dioxide, foam, dry chemical, water spray.  
Hazardous Combustion Byproducts: Aldehydes, acids and oxides of carbon, nitrogen and sulfur.  
Fire Fighting Instructions: Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH-approved positive pressure self contained breathing apparatus and full protective clothing.  
Unusual Fire Hazards: (See "Hazardous decomposition products")

[To Top of page](#)



**SECTION 6 : ACCIDENTAL RELEASE MEASURES** EPOXY STICK

Leak Response: Scrape up as much as possible and store in a closed container until disposal.

[To Top of page](#)



**SECTION 7 : HANDLING and STORAGE** EPOXY STICK

**Handling:** Avoid prolonged skin contact. Keep away from eyes. Wash thoroughly after handling, especially before eating, drinking, smoking, and using restroom facilities. Wash contaminated goggles, faceshield, and gloves. Professionally launder contaminated clothing before re-use.

**Storage:** Store below 90°F in a cool, dry, well ventilated area. (Contact Loctite Customer Service 1-800-243-4874 for shelf life information)

[To Top of page](#)



## SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION EPOXY STICK

**Ventilation System:** Use local exhaust ventilation to collect dust at point of generation.

**Skin Protection Description:** Appropriate impervious gloves. Because a variety of protective gloves exist, consult manufacturer to determine the proper type for a specific operation.

**Eye/Face Protection:** Safety glasses or goggles.

**Respiratory Protection:** None required.

**Comments:** See Section 8 for Exposure Limits

### Ingredient Guidelines

**Ingredient:** Glass

**Guideline Type:** Exposure Limits (TWA)  
**Guideline Information:** ACGIH (TLV): 10 mg/m3(inhal) ; OSHA (PEL): 15 mg/m3(total) ; OTHER: None ;

**Guideline Type:** Exposure Limits (TWA)  
**Guideline Information:** ACGIH (TLV): 3 mg/m3(resp) ; OSHA (PEL): 5 mg/m3(resp) ;

**Ingredient:** Iron

**Guideline Type:** Exposure Limits (TWA)  
**Guideline Information:** ACGIH (TLV): 5 mg/m3 (as Fe) 10 mg/m3(as Fe) ; OSHA (PEL): None ;

**Ingredient:** SILICA, QUARTZ

**Guideline Type:** Exposure Limits (TWA)  
**Guideline Information:** ACGIH (TLV): 0.05mg/m3 TWA respirable dust; OSHA (PEL): 0.1mg/m3 TWA respirable dust; OTHER: None

**Ingredient:** TALC

**Guideline Type:** Exposure Limits (TWA)  
**Guideline Information:** ACGIH (TLV): 2 mg/m3 TWA ; OSHA (PEL): 2 mg/m3 TWA ; OTHER: None ;

**Guideline Type:** Exposure Limits (TWA)  
**Guideline Information:** ACGIH (TLV): respirable dust; OSHA (PEL): respirable dust;

[To Top of page](#)



## SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES EPOXY STICK

**Physical State/Appearance:** Black Metallic Putty

**Odor:** Mercaptan, sulfur

**pH:** Does not apply

**Vapor Pressure:** Not available

**Vapor Density:** Non volatile

**Boiling Point:** Not available

**Solubility in Water:** Insoluble

**Specific Gravity:** 2.18

**Evaporation Point:** (Ether = 1) Non volatile

**Volatile Organic Compound Content:** (EPA Method 24) Less than 1.0%

[To Top of page](#)



## SECTION 10 : STABILITY and REACTIVITY EPOXY STICK

**Chemical Stability:** Stable

**Conditions to Avoid:** None

**Incompatibilities with Other Materials:** None

**Hazardous Polymerization:** Will not occur

**Hazardous Decomposition Products:** None (non-thermal)

[To Top of page](#)



## SECTION 11 : TOXICOLOGICAL INFORMATION EPOXY STICK

**Toxicological Paragraph:** See Section 3.

[To Top of page](#)



## SECTION 12 : ECOLOGICAL INFORMATION EPOXY STICK

**Ecotoxicity:** No data available

[To Top of page](#)



## SECTION 13 : DISPOSAL CONSIDERATIONS EPOXY STICK

**Waste Disposal:** Incinerate following EPA and local regulations.

**EPA Waste Number:** NH - Not a RCRA Hazardous Waste Material

[To Top of page](#)



**SECTION 14 : TRANSPORT INFORMATION**

EPOXY STICK

DOT Shipping Name: Unrestricted  
 DOT Hazard Class: Unrestricted  
 DOT Identification Number: None  
 IATA Shipping Name: Unrestricted  
 IATA UN Number: None  
 IATA Class: Unrestricted  
 Maritime Pollutant: None

[To Top of page](#)**SECTION 15 : REGULATORY INFORMATION**

EPOXY STICK

**CA Proposition 65** WARNING: This product contains chemicals known to the State of California to cause cancer: Silica 14808-60-7 Sodium Calcium Magnesium silicate 65997-17-3

[To Top of page](#)**SECTION 16 : ADDITIONAL INFORMATION**

EPOXY STICK

**HMIS:**

Health Hazard: 1\*  
 Fire Hazard: 1  
 Reactivity: 0  
 Personal Protection: See Section 8.

**NFPA:**

Health: 1  
 Fire Hazard: 1  
 Reactivity: 0  
 Specific Hazard: Does not apply

MSDS Revision Date: January 30, 2002

MSDS Author: Rajal Dhruva Health and Regulatory Affairs Specialist. Henkel Loctite Corporation, Rocky Hill CT 06067

MSDS Author Phone No.: (860) 571-5100

Comment: NFPA is a registered trademark of the National Fire Protection Assn. HMIS is a registered trademark of the National Paint and Coatings Assn.

Revision 0004

Copyright© 1996-2009 Actio Corporation. All Rights Reserved.

[To Top of page](#)

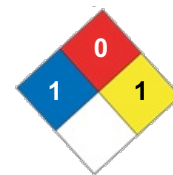
ACTIO MSDS ID: 41068

**View Section : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16****SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION**

TAPE

Manufacturer MSDS.: TAPE  
 Manufacturer Name: Loctite Corporation  
 Address: 1001 Trout Brook Crossing  
 Rocky Hill Connecticut 06067  
 Product Description: Polyurethane Adhesive

Emergency Phone: (860) 571-5100  
 Product Codes: TAPE

**NFPA****HMIS**

HEALTH	3
FIRE	1
REACTIVITY	1
PPE	

[To Top of page](#)**SECTION 2 : COMPOSITION, INFORMATION ON INGREDIENTS**

TAPE

Ingredient Name	CAS#	Ingredient Percent
Homologues of methylene bisphenyl isocyanate*	9016-87-9	5-10 by Weight
EC Index Number:	1	

Comments: \* This component is listed as a SARA Section 313 Toxic Chemical.

[To Top of page](#)



### SECTION 3 : HAZARDS IDENTIFICATION

TAPE

#### Applies to all ingredients:

##### Route of Exposure:

Skin contact from liquid and aerosols (spray application). Inhalation. Although MDI is low in volatility, an inhalation hazard can exist from MDI aerosols or vapors formed during heating, foaming, or spraying. LOCTITE CORPORATION 04/14/02 ROCKY HILL, CONNECTICUT 06067 EMERGENCY PHONE: (860) 571-5100 MATERIAL SAFETY DATA SHEET Page 03 of 11 Item No.: TAPE

##### Potential Health Effects:

Acute inhalation: Methylene bisphenyl isocyanate (MDI) vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (Nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis with flu-like symptoms (e.g., fever, chills) has also been reported. These symptoms can be delayed up to several hours after exposure. Chronic inhalation: As a result of previous repeated overexposures or a single large dose certain individuals develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure). Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Overexposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent. Acute skin contact: Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove. Chronic skin contact: Prolonged contact can cause reddening, swelling, rash, scaling, blistering and in some cases, skin sensitization. Individuals who have skin sensitization can develop these symptoms from contact with liquid or vapor. Animal tests have indicated that respiratory sensitization can result from skin contact with MDI. These data reinforce the need to prevent direct skin contact with MDI. (See Section 11 Toxicological information.) Acute eye contact: Liquid, aerosols or vapor are irritating and can cause tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. Damage, however, is usually reversible. See section 4. for treatment. Acute ingestion: Irritation and corrosive action can occur in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

##### Signs/Symptoms:

Signs and symptoms of exposure information is included with toxicity information.

##### Aggravation of Pre-Existing Conditions:

Asthma, other respiratory disorders ( bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema.

##### Abbreviations

N/A Not Applicable; ALG Allergen; IRR Irritant; KID Kidney; LIV Liver; RES Respiratory

#### Homologues of methylene bisphenyl isocyanate\* :

OSHA Designation: NO  
NTP Designation: NO  
IARC Designation: NO  
Target Organs: ALG; IRR; KID; LIV; RES

#### METHYLENE BISPHENYL ISOCYANATE\* :

OSHA Designation: NO  
NTP Designation: NO  
IARC Designation: N/A  
Target Organs: ALG; IRR; RES

[To Top of page](#)



### SECTION 4 : FIRST AID MEASURES

TAPE

##### Eye Contact:

Flush with copious amount of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Refer individual to a physician or ophthalmologist for immediate follow-up.

##### Skin Contact:

Remove contaminated clothing. Wash affected skin thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. For lesser exposures, seek medical attention if irritation develops or persists after area is washed.

##### Inhalation:

Move to an area free from risk of further exposure Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Consult a physician should this development occur.

<b>Ingestion:</b>	Do not induce vomiting. Give one to two cups of milk or water to drink. Do not give anything by mouth to an unconscious person. Consult a physician.
<b>Note to Physicians:</b>	Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. Skin: This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. If burned, treat as thermal burn. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound. Respiratory: This compound is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

[To Top of page](#)



## SECTION 5 : FIRE FIGHTING MEASURES

TAPE

<b>Flash Point:</b>	370°F
<b>Flash Point Method:</b>	Pensky-Martens Closed Cup
<b>Upper Flammable or Explosive Limit:</b>	Not available
<b>Lower Flammable or Explosive Limit:</b>	Not available
<b>Extinguishing Media:</b>	Carbon dioxide, foam, dry chemical. Water spray for large fires. and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire-exposed containers.
<b>Hazardous Combustion Byproducts:</b>	Carbon monoxide, oxides of nitrogen, traces of hydrogen cyanide, MDI vapors or aerosols.
<b>Fire Fighting Instructions:</b>	Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. During a fire, MDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. At temperatures greater than 400°F, 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.
<b>Unusual Fire Hazards:</b>	None

[To Top of page](#)



## SECTION 6 : ACCIDENTAL RELEASE MEASURES

TAPE

<b>Leak Response:</b>	Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment, including respiratory equipment during clean-up. Major spill: Call the manufacturer. If temporary control of isocyanate vapor is required, a blanket of protein foam (available at most fire departments) may be placed over spill. Large quantities may be pumped into closed, but not sealed, container for disposal. Minor spill: Absorb isocyanates with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well-ventilated area (outside) and treat with neutralizing solution: mixture of water (80%) with non-ionic surfactant Tergitol TMN-10 (20%), or water (90%), concentrated ammonia (3-8%), and detergent (2%). Add about ten parts of neutralizer per part of isocyanate, with mixing. Allow to stand uncovered for 48 hours to let carbon dioxide escape. Clean-up: Decontaminate floor with decontamination solution letting stand for at least 15 minutes.
-----------------------	--

[To Top of page](#)



## SECTION 7 : HANDLING and STORAGE

TAPE

<b>Handling:</b>	Avoid contact with skin and eyes. Do not breathe aerosols or vapors. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent chronic overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentration. Exposure to vapors of heated MDI can be extremely dangerous. Employee education and training in the safe use and handling of this compound are required under the OSHA Hazard Communication Standard.
<b>Storage:</b>	Store between 32°F and 104°F. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. If container is exposed to high heat (400°F), it can be pressurized and possibly rupture. MDI reacts slowly with water to form carbon dioxide gas. This gas can cause sealed containers to expand and possibly rupture. (Contact Loctite Customer Service 1-800-243-4874 for shelf life information)

[To Top of page](#)



## SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION

TAPE

<b>Ventilation System:</b>	Local exhaust should be used to maintain levels below the TLV whenever MDI is processed, heated or spray applied. Standard reference sources regarding industrial ventilation (i.e., ACGIH Industrial Ventilation) should be consulted for guidance about adequate ventilation. Monitoring: Isocyanate exposure levels must be monitored. Monitoring of airborne isocyanates in the breathing zone of individuals should become part of the overall employee exposure characterization program. Monitoring techniques have been developed by NIOSH and OSHA. Upon request the manufacturer can make available methods which are modifications of these NIOSH and OSHA methods. Medical Surveillance: Medical supervision of all employees who handle or come in contact with isocyanates is recommended. These should include preemployment and periodic medical examinations with pulmonary function tests (FEV <sub>1</sub> , FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, or other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.
<b>Skin Protection Description:</b>	Permeation resistant gloves (butyl rubber, nitrile rubber, polyvinyl alcohol). However, please note that polyvinyl alcohol degrades in water. Cover as

much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area covered by the cream to a minimum. Safety showers and eye wash stations should be available. Educate and train employees in safe use of product. Follow all label instructions.

**Eye/Face Protection:**

Liquid chemical goggles. Vapor resistant goggles should be worn when contact lenses are in use. In a splash hazard environment chemical goggles should be used in combination with a full face shield.

**Respiratory Protection:**

Concentrations greater than the TLV can occur when MDI is sprayed, heated or used in a poorly ventilated area. In such cases, or whenever concentrations of MDI exceed the TLV, respiratory protection must be worn. A positive pressure, supplied-air respirator or a self-contained breathing apparatus is recommended. In situations where MDI is not sprayed, heated, or used in a poorly ventilated area, and a supplied-air or self-contained breathing apparatus is unavailable or its use impractical, at least an air-purifying respirator equipped with an organic vapor cartridge and particulate pre-filters must be worn. However, this should be permitted only for short periods of time (less than one hour) at relatively low concentrations (at or near the TLV). However, due to the poor warning properties of MDI, proper fit and timely replacement of filter elements must be ensured. Observe OSHA regulations for respiratory use (29 CFR 1910.134). See Section 8 for Exposure Limits.

**Ingredient Guidelines**

**Ingredient:** METHYLENE BISPHENYL ISOCYANATE\*

Guideline Type:	Exposure Limits (TWA)
Guideline Information:	ACGIH (TLV): 0.005 ppm TWA; OSHA (PEL): None; OTHER: None
Guideline Type:	Exposure Limits (STEL)
Guideline Information:	ACGIH (TLV): None; OSHA (PEL): 0.02ppmCeiling
Guideline Type:	Exposure Limits (STEL)
Guideline Information:	OSHA (PEL): 0.2mg/m3Ceiling

[To Top of page](#)



**SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES**

TAPE

<b>Physical State/Appearance:</b>	Fiberglass cloth coated with viscous white resin
<b>Odor:</b>	Odorless
<b>pH:</b>	Does not apply
<b>Vapor Pressure:</b>	0.003 mm Hg
<b>Vapor Density:</b>	8.5
<b>Boiling Point:</b>	1200°F
<b>Solubility in Water:</b>	Insoluble - Reacts slowly with water to liberate Carbon dioxide gas
<b>Specific Gravity:</b>	1.22
<b>Evaporation Point:</b>	(Ether 1) Not available
<b>Volatile Organic Compound Content:</b>	(EPA Method 24) Not available

[To Top of page](#)



**SECTION 10 : STABILITY and REACTIVITY**

TAPE

<b>Chemical Stability:</b>	Stable
<b>Conditions to Avoid:</b>	Contamination with water.
<b>Incompatibilities with Other Materials:</b>	Water, amines, strong bases, alcohols. Will cause some corrosion to copper alloys and aluminum.
<b>Hazardous Polymerization:</b>	May occur. Contact with moisture, other materials which can react with isocyanates, or temperatures above 400°F, may cause polymerization.
<b>Hazardous Decomposition Products:</b>	None

[To Top of page](#)



**SECTION 11 : TOXICOLOGICAL INFORMATION**

TAPE

<b>Toxicological Paragraph:</b>	<p>Toxicity data for monomeric and polymeric methylene bisphenyl isocyanate: Acute toxicity Oral LD50: More than 15,800 mg/kg. (Rats) Dermal LD50: More than 7,900 mg/kg. (Rabbits) Inhalation LC50: Approximately 370-490 mg/m<sup>3</sup> for an aerosol of polymeric MDI (Rats four hours) An LC50 (two hours) of greater than 400 mg/m<sup>3</sup> was determined on a dust of monomeric MDI (Rats) Eye effects - Slightly irritating. A maximum primary eye irritation score for a polymeric MDI of 12.0/110 (24 hours) was obtained. This score is fairly typical for a number of MDI products. Skin effects - Slight to moderate irritant. Primary dermal irritation scores are typically below 3.4/8.0 (Draize). Sensitization - MDI has been shown to produce dermal sensitization in several species (guinea pigs, mice, rabbits, and dogs). Intradermal or topical application followed by inhalation challenge have resulted in a respiration sensitization response in guinea pigs. In addition there is some evidence to suggest that cross-sensitization between different types of diisocyanates may occur. Chronic toxicity - In a chronic inhalation study, rats were exposed to an aerosol of polymeric MDI for six hours per day, five days per week for a period for two years. The exposure concentrations were 0, 0.2, 1.0 and 6.0 mg/m<sup>3</sup>. Microscopic examination of tissues revealed the effects of irritation to the nasal cavity and lungs in animals exposed to 1.0 and 6.0 mg/m<sup>3</sup>. The No Observable Effect Level (NOEL) was 0.2 mg/m<sup>3</sup>. Carcinogenicity - In the same two year study described in "chronic toxicity" above the occurrence of pulmonary adenomas (benign tumors) and a single pulmonary adenocarcinoma (malignant tumor) was considered to be related to exposure. These tumors were observed only in rats exposed to the high concentration of 6.0 mg/m<sup>3</sup>. Mutagenicity - Monomeric MDI is positive in the Ames assay (with hepatic microsomal activation). However, it was negative in an invivo-invivo micronucleus assay. Other toxicity data - No conclusive evidence has been developed to indicate that either MDI or a similar product (a solution of MDI and a polyisocyanate prepolymer based on MDI) is carcinogenic, teratogenic or that it causes reproductive effects in animals or in humans. Toxicity data for the similar product mentioned above - Mutagenicity - MDI has been reported by NIOSH to be mutagenic to salmonella typhimurium bacteria in presence of a mammalian activating system. Recent work done by M. Anderson, at the Danish</p>
---------------------------------	---

School of LOCTITE CORPORATION 04/14/02 ROCKY HILL, CONNECTICUT  
06067 EMERGENCY PHONE: (860) 571-5100 MATERIAL SAFETY DATA SHEET  
Page 09 of 11 Item No.: TAPE 11. TOXICOLOGICAL INFORMATION  
(continued) Pharmacy in Denmark and published in the Scandinavian  
Journal of Work and Environmental Health, also shows a positive result.  
There is not full agreement in the scientific community on the significance  
of these Ames test results and their relationship to human safety in the  
risk of cancer in man. Other toxicity data: No conclusive evidence has  
been developed to indicate that either MDI or the similar product  
mentioned above is carcinogenic, teratogenic or that it causes  
reproductive effects in animals or in humans.

[To Top of page](#)



## SECTION 12 : ECOLOGICAL INFORMATION

TAPE

**Ecotoxicity:** Aquatic toxicity - LC50 - 24 hour (static): Greater than 500 mg/liter for Daphnia magna, Limnea stagnalis, and Zebra fish (Brachydanio rerio) for both polymeric and monomeric MDI.

[To Top of page](#)



## SECTION 13 : DISPOSAL CONSIDERATIONS

TAPE

**Waste Disposal:** Incinerate following EPA and local regulations.  
**EPA Waste Number:** NH - Not a RCRA Hazardous Material for Disposal

[To Top of page](#)



## SECTION 14 : TRANSPORT INFORMATION

TAPE

**DOT Shipping Name:** Unrestricted  
**DOT Hazard Class:** Unrestricted  
**DOT Identification Number:** None  
**IATA Shipping Name:** Unrestricted  
**IATA UN Number:** None  
**IATA Class:** Unrestricted  
**Maritime Pollutant:** None

[To Top of page](#)



## SECTION 15 : REGULATORY INFORMATION

TAPE

### **Applies to all ingredients:**

**TSCA 8(b): Inventory Status:** Components are on the TSCA Inventory.

**SARA:** Section 302 Extremely Hazardous Substances: None

**Section 313 Toxic Release Form:** (See Section 2)

**OSHA 29 CFR 1200:** This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200

**State:** The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state. Methylene bisphenyl isocyanate (101-68-8): Pennsylvania Hazardous Substance List, Florida Substance List, Illinois Toxic Substances List, Massachusetts Hazardous Substance List, Rhode Island List of Designated Substances, New Jersey Hazardous Substance List, Canadian WHMIS Ingredient Disclosure List over 0.1% Polyisocyanate: Pennsylvania Non-hazardous present at 3% or greater, New Jersey Other - included in five predominant ingredients > 1% (containers larger than two liters/two kilograms), New Jersey Trade Secret Registry Number 31765300002-5317P Methylene bisphenyl isocyanate (26447-40-5): New Jersey Other - included in five predominant ingredients > 1% (containers larger than two liters/two kilograms).

**CA Proposition 65** No California Proposition 65 chemicals are known to be present.

[To Top of page](#)



## SECTION 16 : ADDITIONAL INFORMATION

TAPE

**HMIS:**  
**Health Hazard:** 3\*  
**Fire Hazard:** 1  
**Reactivity:** 1  
**Personal Protection:** See Section 8.  
**NFPA:**  
**Health:** 3  
**Fire Hazard:** 1  
**Reactivity:** 1  
**Specific Hazard:** Does not apply  
**MSDS Revision Date:** February 22, 2001

**MSDS Author:** Rajal Dhruva Health and Regulatory Affairs Specialist Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067

**MSDS Author Phone No.:** (860) 571-5100



Comment:

NFPA is a registered trademark of the National Fire Protection Assn. HMIS is a registered trademark of the National Paint and Coatings Assn.

Revision

First Issu

Copyright© 1996-2009 Actio Corporation. All Rights Reserved.

[To Top of page](#)

