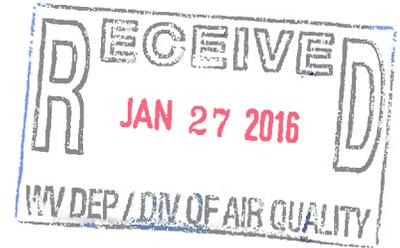




TEKNI-PLEX™
Global strength. Superior solutions.



January 8, 2016

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304-2345
Phone: (304) 926-0440

Permit #: R13-2562C
Plant ID number: 069-00084

Re: Permit #: R13-2562C
Plant ID Number: 069-00084
Notice of HAP use – Permit Determination

Per Requirement 4.1.13(a) of air permit R13-2562C, we are providing notice of usage of methylene bisphenyl isocyanate (MDI).

Accompanying this letter, please find the following two SDS. Both products are from Henkel Adhesives:

- LOCTITE LIOFOL LA 1142-13
- LOCTITE LIOFOL LA 6029

This system, mixed at ration of 1:1, is used to bond films to foils on our existing Laminator L5. This system is replacement to our past MOR-FREE L75-164/C-411. We do anticipate similar usage levels as old system.

The new system has HAP component described as methylene bisphenyl isocyanate. Actual emissions of this component is projected to be below 9.4 tons per year.

Please, let us know if you have any questions.

Sincerely,

Alaa Ismail
Sr. Quality Manager
(Ph): (304) 547-1990 Ext 421
Email: alaa.ismail@tekni-plex.com



Tech-Seal Products, A Tekni-Plex, Inc

599 Technology Drive, Triadelphia, WV. 26059





WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 DIVISION OF AIR QUALITY
 601 57th Street, SE
 Charleston, WV 25304
 Phone: (304) 926-0475
 www.dep.wv.gov/daq

**PERMIT DETERMINATION FORM
(PDF)**

FOR AGENCY USE ONLY: PLANT I.D. # _____
 PDF # _____ PERMIT WRITER: _____

1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE):
 Tekni-Plex, Inc dba Tech Seal

2. NAME OF FACILITY (IF DIFFERENT FROM ABOVE):
 3. NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) CODE:
 322222

4A. MAILING ADDRESS: 599 Technology Drive, Triadelphia, WV, 26059
 4B. PHYSICAL ADDRESS: Same

5A. DIRECTIONS TO FACILITY (PLEASE PROVIDE MAP AS ATTACHMENT A): West on I-70 West > exit 11 (Dallas Pike) > Bottom of the exit-turn right onto Dallas Pike Rd > for about 50 yds turn left onto Technology Drive (Right after passing Marathon gas station) > for about ¼ mile, the facility is on the left.

5B. NEAREST ROAD: Dallas Pike
 5C. NEAREST CITY OR TOWN: Triadelphia, WV
 5D. COUNTY: Ohio

5E. UTM NORTHING (KM): 4,434.9
 5F. UTM EASTING (KM): 53713
 5G. UTM ZONE: 17

6A. INDIVIDUAL TO CONTACT IF MORE INFORMATION IS REQUIRED: Alaa Ismail
 6B. TITLE: Sr. Quality Manager

6C. TELEPHONE: (304) 547-1990 ext 421
 6D. FAX: (304) 547-0978
 6E. E-MAIL: alaa.ismail@tekni-plex.com

7A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY): 069 — 00084
 7B. PLEASE LIST ALL CURRENT 45CSR13, 45CSR14, 45CSR19 AND/OR TITLE V (45CSR30) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR AN EXISTING FACILITY ONLY): R13-2562C

7C. IS THIS PDF BEING SUBMITTED AS THE RESULT OF AN ENFORCEMENT ACTION? IF YES, PLEASE LIST:
 No

8A. TYPE OF EMISSION SOURCE (CHECK ONE):
 NEW SOURCE ADMINISTRATIVE UPDATE
 MODIFICATION OTHER (PLEASE EXPLAIN IN 11B)
 8B. IF ADMINISTRATIVE UPDATE, DOES DAQ HAVE THE APPLICANT'S CONSENT TO UPDATE THE EXISTING PERMIT WITH THE INFORMATION CONTAINED HEREIN?
 YES NO

9. IS DEMOLITION OR PHYSICAL RENOVATION AT AN EXISTING FACILITY INVOLVED? YES NO

10A. DATE OF ANTICIPATED INSTALLATION OR CHANGE: 10/01/2015
 10B. DATE OF ANTICIPATED START-UP: 10/06/2015

11A. PLEASE PROVIDE A DETAILED PROCESS FLOW DIAGRAM SHOWING EACH PROPOSED OR MODIFIED PROCESS EMISSION POINT AS ATTACHMENT B.

11B. PLEASE PROVIDE A DETAILED PROCESS DESCRIPTION AS ATTACHMENT C.

12. PLEASE PROVIDE MATERIAL SAFETY DATA SHEETS (MSDS) FOR ALL MATERIALS PROCESSED, USED OR PRODUCED AS ATTACHMENT D. FOR CHEMICAL PROCESSES, PLEASE PROVIDE A MSDS FOR EACH COMPOUND EMITTED TO AIR.

13A. REGULATED AIR POLLUTANT EMISSIONS:

⇒ FOR A NEW FACILITY, PLEASE PROVIDE PLANT WIDE EMISSIONS BASED ON THE POTENTIAL TO EMIT (PTE) FOR THE FOLLOWING AIR POLLUTANTS INCLUDING ALL PROCESSES.

⇒ FOR AN EXISTING FACILITY, PLEASE PROVIDE THE PROPOSED CHANGE IN EMISSIONS BASED ON THE PTE OF ALL PROCESS CHANGES FOR THE FOLLOWING AIR POLLUTANTS.

PTE FOR A GIVEN POLLUTANT IS TYPICALLY BEFORE AIR POLLUTION CONTROL DEVICES AND IS COLLECTED BASED ON THE MAXIMUM DESIGN CAPACITY OF PROCESS EQUIPMENT.

POLLUTANT	HOURLY PTE (LB/HR)	YEARLY PTE (TON/YR) (HOURLY PTE MULTIPLIED BY 8760 HR/YR) DIVIDED BY 2000 LB/TON
PM		
PM ₁₀		
VOCs		
CO		
NO _x		
SO ₂		
Pb		
HAPs (AGGREGATE AMOUNT)	11.25 lb/hr (maximum)	49.28 ton/yr
TAPs (INDIVIDUALLY)*		
OTHER (INDIVIDUALLY)*		

* ATTACH ADDITIONAL PAGES AS NEEDED

13B. PLEASE PROVIDE ALL SUPPORTING CALCULATIONS AS ATTACHMENT E.

CALCULATE AN HOURLY AND YEARLY PTE OF EACH PROCESS EMISSION POINT (SHOWN IN YOUR DETAILED PROCESS FLOW DIAGRAM) FOR ALL AIR POLLUTANTS LISTED ABOVE INCLUDING INDIVIDUAL HAP'S (LISTED IN SECTION 112(b) OF THE 1990 CAAA), TAP'S (LISTED IN 45CSR27), AND OTHER AIR POLLUTANTS (E.G. POLLUTANTS LISTED IN TABLE 45-13A OF 45CSR13, MINERAL ACIDS PER 45CSR7, ETC.).

14. CERTIFICATION OF DATA

I, CLARK BAUGLES (TYPE NAME) ATTEST THAT ALL THE REPRESENTATIONS CONTAINED IN THIS APPLICATION, OR APPENDED HERETO, ARE TRUE, ACCURATE, AND COMPLETE TO THE BEST OF MY KNOWLEDGE BASED ON INFORMATION AND BELIEF AFTER REASONABLE INQUIRY, AND THAT I AM A RESPONSIBLE OFFICIAL** (PRESIDENT, VICE PRESIDENT, SECRETARY OR TREASURER, GENERAL PARTNER OR SOLE PROPRIETOR) OF THE APPLICANT.

SIGNATURE OF RESPONSIBLE OFFICIAL: 

TITLE: DIRECTOR, GLOBAL ENVIRONMENTAL AFFAIRS DATE: 1 / 21 / 2016

** THE DEFINITION OF THE PHRASE 'RESPONSIBLE OFFICIAL' CAN BE FOUND AT 45CSR13, SECTION 2.23.

NOTE: PLEASE CHECK ENCLOSED ATTACHMENTS:

- ATTACHMENT A ATTACHMENT B ATTACHMENT C ATTACHMENT D ATTACHMENT E

RECORDS ON ALL CHANGES ARE REQUIRED TO BE KEPT AND MAINTAINED ON-SITE FOR TWO (2) YEARS.

THE PERMIT DETERMINATION FORM WITH THE INSTRUCTIONS CAN BE FOUND ON DAQ'S PERMITTING SECTION WEB SITE:

www.dep.wv.gov/daq

Attachment E

Estimated annual HAP emissions:

- Based on annual actual 2014 consumption of the previous adhesive system, we project that the LA 1142-13 amount (annually) will be around 11,403 lbs.
- Per the SDS, up to 30% by weight of MDI is present in the LA 1142-13 component. For the purpose of calculations, we assume all is volatilized and emitted in the laminator exhaust.

Therefore:

$(11,403 \text{ pounds}) \times (30\%) = 3420.75 \text{ pounds}$ or **1.7 tons per year**

Estimated Potential to Emit (PTE):

- Maximum usage of adhesive system per hour (nonstop, maximum speed, no change overs) is 75 lb/hr . Since the mixture ratio of this new adhesive is 50:50 (adhesive: Co-reactant), the adhesive LA 1142-13 portion will be at maximum **37.5 lb/hr**

Speed (1000 fpm) x 60 min = 60,000 ft

Maximum Reams of Material produced in one hour:

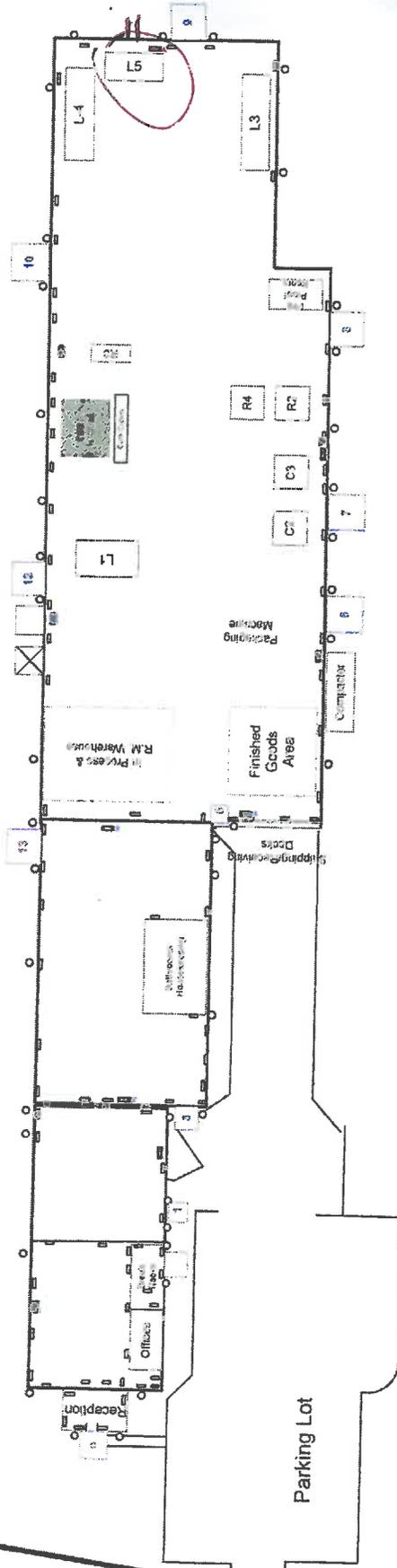
$(60,000 \text{ ft} \times \text{Web width } (40.875") \times \text{ft}/12\text{in}) / 3000 \text{ sq.ft}$ where Ream = 3000 sq.ft

= 68.125 Reams therefore usage is 68.125 x Application weight (1.1 Pounds/Ream) = 75 lb/hr (both components)

50:50 ratio comes to 37.5 lb/hr of LA 1142-13

MDI is up to 30% by weight of LA 1142-13

$(37.5 \text{ lb/hr}) \times (30\%) = 11.25 \text{ lb/hr}$ of HAP



Tech-Seal Products, Inc.
 599 Technology Drive
 Triadelphia, WV 26059

Site/Plant Layout

Review Date: 2014-06-18
 Reviewed By: Alaz Ismail

Distribution of the Rodent Traps, and Bait Stations

Legend

- Inside Rodent Traps
- Outside Bait Stations
- ⚡ Bugs Zappers, (IL.T)



Revision Number: 002.0

Issue date: 04/01/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE LIOFOL LA 1142-13 known as LIOFOL LA 1142-13
Product type: Laminating adhesive
Restriction of Use: This product is for industrial use only.
Company address: Henkel Corporation
 One Henkel Way
 Rocky Hill, Connecticut 06067

IDH number: 784858

Region: United States

Contact information:
 Telephone: (860) 571-5100
 MEDICAL EMERGENCY Phone: Poison Control Center
 1-877-671-4608 (toll free) or 1-303-592-1711
 TRANSPORT EMERGENCY Phone: CHEMTREC
 1-800-424-9300 (toll free) or 1-703-527-3887
 Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
DANGER:	CAUSES SKIN IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES SERIOUS EYE IRRITATION. FATAL IF INHALED. MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED. CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

HAZARD CLASS	HAZARD CATEGORY
ACUTE TOXICITY INHALATION	2
SKIN IRRITATION	2
EYE IRRITATION	2A
RESPIRATORY SENSITIZATION	1
SKIN SENSITIZATION	1
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	1



Precautionary Statements

Prevention: Do not breathe vapors, mist, or spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. Wear protective gloves. Wear respiratory protection.

Response: IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Immediately call a poison control center or physician. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. If experiencing respiratory symptoms: Call a poison center or physician. Take off contaminated clothing.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Blocked homopolymer	Proprietary	30 - 60
Methylenebis(phenylisocyanate)	101-68-8	10 - 30
Polyurethane prepolymer	Proprietary	10 - 30
Hexane, 1,6-diisocyanato-, homopolymer	28182-81-2	5 - 10
Adduct of polyameric isocyanate and an amine siliane	Proprietary	1 - 5

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If not breathing, give artificial respiration. Get immediate medical attention.

Skin contact: Wash affected area immediately with soap and water. Remove contaminated clothing and footwear. If symptoms develop and persist, get medical attention.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get immediate medical attention.

Ingestion: Get immediate medical attention. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Symptoms: See Section 11.

Notes to physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Extinguishing media: Foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Unusual fire or explosion hazards: Overexposure to decomposition products may cause a health hazard.

Hazardous combustion products: Smoke. Oxides of carbon. Oxides of nitrogen. Isocyanates. Hydrogen cyanide.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Prevent contamination of soil and water.

Clean-up methods:

Wear suitable protective clothing, gloves and eye/face protection. Avoid skin contact and inhalation of vapors during disposal of spills. Confine in small area; use absorbent to clean up. Place in container for disposal with accordance with federal, state and local regulations.

7. HANDLING AND STORAGE

Handling:

Wear suitable protective clothing, safety glasses and gloves. Avoid skin and eye contact. Wash hands before breaks and immediately after handling the product. Avoid breathing vapors or mists of this product. Keep container closed.

Storage:

Keep containers closed when not in use. Avoid moisture. Reacts slowly with water to liberate carbon dioxide gas.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Blocked homopolymer	None	None	None	None
Methylenebis(phenylisocyanate)	0.005 ppm TWA	0.02 ppm (0.2 mg/m ³) Ceiling	None	None
Polyurethane prepolymer	None	None	None	None
Hexane, 1,6-diisocyanato-, homopolymer	None	None	None	0.5 mg/m ³ TWA 1.0 mg/m ³ STEL
Adduct of polyameric isocyanate and an amine siliane	None	None	None	None

Engineering controls:

Work should be done in an adequately ventilated area (i.e., ventilation sufficient to maintain concentrations below one half of the PEL and other relevant standards). Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination.

Respiratory protection:

Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Observe OSHA regulations for respirator use (29 CFR 1910.134).

Eye/face protection:

Safety goggles or safety glasses with side shields. Wear face shield as necessary when spraying.

Skin protection:

Use impermeable gloves and protective clothing as necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Natural color
Odor:	Mild
Odor threshold:	0.4 ppm 0.4 ppm (4,4'-MDI)
pH:	Not applicable
Vapor pressure:	Not determined
Boiling point/range:	Not applicable
Melting point/ range:	Not available.
Specific gravity:	1.14
Vapor density:	Not available.
Flash point:	> 94 °C (> 201.2 °F)
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not available.
Evaporation rate:	Not determined
Solubility in water:	Insoluble

Partition coefficient (n-octanol/water): Not available.
 VOC content: 0 g/l (minus exempt solvents and water).
 Viscosity: Not available.
 Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: Hazardous polymerization may occur at temperatures above 204.4°C (400°F).

Hazardous decomposition products: Oxides of carbon. Oxides of nitrogen. Isocyanates. Hydrogen cyanide.

Incompatible materials: Acids and bases. Oxidizing agents. Amines. Reacts slowly with water to liberate carbon dioxide gas.

Reactivity: Not available.

Conditions to avoid: Avoid moisture.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

Inhalation: May cause respiratory tract irritation. This compound contains a material that may cause sensitization in some individuals, resulting in allergic symptoms of the respiratory tract producing asthma-like conditions (including wheezing, shortness of breath and difficulty breathing). May cause lung damage.

Skin contact: May cause skin irritation. May cause allergic skin reaction in susceptible individuals.

Eye contact: May cause irritation.

Ingestion: May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Blocked homopolymer	None	No Records
Methylenebis(phenylisocyanate)	Inhalation LC50 (RAT, 4 h) = 0.38 mg/l Inhalation LC50 (RAT, 4 h) = 0.369 mg/l	Irritant, Respiratory, Allergen
Polyurethane prepolymer	None	Irritant, Allergen, Respiratory
Hexane, 1,6-diisocyanato-, homopolymer	None	Allergen, Irritant, Respiratory
Adduct of polyameric isocyanate and an amine siliane	None	No Data

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Blocked homopolymer	No	No	No
Methylenebis(phenylisocyanate)	No	No	No
Polyurethane prepolymer	No	No	No
Hexane, 1,6-diisocyanato-, homopolymer	No	No	No
Adduct of polyameric isocyanate and an amine siliane	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Do not empty into drains / surface water / ground water.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

- Recommended method of disposal:** Legal disposition of wastes is the responsibility of the owner/generator of the waste. Applicable federal, state and/or local regulations must be followed during treatment, storage, or disposal of waste containing this product.
- Hazardous waste number:** To the best of our knowledge, this product is not listed nor does it meet the criteria of a hazardous waste if discarded in its purchased form. However, under RCRA, it is the responsibility of the user to determine at the time of disposal whether a product meets any of the RCRA hazardous waste criteria. This is because product uses, transformations, mixtures, processes, etc., may render the resulting material hazardous, under the criteria of ignitability, corrosivity, reactivity and toxicity characteristics under the new Toxicity Characteristics Leaching Procedure (TCLP) 40 Code of Federal Regulations 261.20-24.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

- Proper shipping name:** RQ, Environmentally hazardous substances, liquid, n.o.s.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
DOT Hazardous Substance(s): Methylene diphenyl diisocyanate

International Air Transportation (ICAO/IATA)

- Proper shipping name:** Environmentally hazardous substance, liquid, n.o.s.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

Water Transportation (IMO/IMDG)

- Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

15. REGULATORY INFORMATION

United States Regulatory Information

- TSCA 8 (b) Inventory Status:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
- TSCA 12 (b) Export Notification:** None above reporting de minimis
- CERCLA/SARA Section 302 EHS:** None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA 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 (40 CFR 372). Methylenebis(phenylisocyanate) (CAS# 101-68-8).
CERCLA Reportable quantity: Methylenebis(phenylisocyanate) (CAS# 101-68-8) 5,000 lbs. (2,270 kg)
- California Proposition 65:** No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

- CEPA DSL/NDL Status:** One or more components are not listed on, and are not exempt from listing on either the Domestic Substances List or the Non-Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

Prepared by: Carrie Oswald, Regulatory Affairs Specialist

Issue date: 04/01/2015

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods Henkel has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel's products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

Material Safety Data Sheet



Revision Number: 001.0

Issue date: 08/03/2012

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE LIOFOL LA 6029 known as Liofol LA 6029
Product type: Laminating adhesive, solvent free
Product name: LOCTITE LIOFOL LA 6029 known as Liofol LA 6029
IDH number: 1377627
Region: United States
Company address: Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067
Contact information:
Telephone: 860.571.5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

One or more components of this product are not listed on the U.S. Toxic Substances Control Act (TSCA) inventory. As such, this product may only be used for research and development purposes as described in 40 CFR 720.36. Research and development products must be used by, or directly under the supervision of, a technically qualified individual. Exercise due care. This product may not be used, processed or distributed for a commercial purpose in the U.S.

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state:	Liquid	HEALTH:	1
Color:	Yellow	FLAMMABILITY:	0
Odor:	Mild	PHYSICAL HAZARD:	0
		Personal Protection:	See MSDS Section 8

CAUTION: MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.
Skin contact: Prolonged and/or repeated skin contact may result in mild irritation or redness.
Eye contact: May cause slight irritation to eyes on contact.
Ingestion: Not expected under normal conditions of use. May cause gastrointestinal tract irritation if swallowed.

Existing conditions aggravated by exposure: None known

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Diethylene Glycol	111-46-6	1 - 5

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If symptoms develop and persist, get medical attention.

Skin contact: Wash affected area immediately with soap and water. Remove contaminated clothing and footwear. If symptoms develop and persist, get medical attention.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get immediate medical attention.

Ingestion: If material is ingested, immediately contact a physician or poison control center. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flash point: 158.00 - 172.00 °C (316.4 - 341.6 °F) no method

Autoflignition temperature: Not available.

Flammable/Explosive limits - lower: Not applicable

Flammable/Explosive limits - upper: Not applicable

Extinguishing media: Use extinguishing measures appropriate to local circumstances and the surrounding environment.

Special firefighting procedures: Keep unnecessary personnel away. Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Unusual fire or explosion hazards: Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.

Hazardous combustion products: Smoke. Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not allow product to enter sewer or waterways.

Clean-up methods: Small spills can be absorbed with vermiculite, clay or other suitable non-biodegradable absorbent material, scooped up and placed in containers. For large spills dike ahead and collect liquid. Follow all local, state, federal and provincial regulations for disposal.

7. HANDLING AND STORAGE

Handling: Wear suitable protective clothing, safety glasses and gloves. Avoid skin and eye contact. Wash hands before breaks and immediately after handling the product. Avoid breathing vapors or mists of this product. Keep container closed.

Storage: Do not freeze.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Diethylene Glycol	None	None	10 mg/m3 TWA	None

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Observe OSHA regulations for respirator use (29 CFR 1910.134).

Eye/face protection: Safety goggles or safety glasses with side shields. Wear face shield as necessary when spraying.

Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Yellow
Odor: Mild
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: Not determined
Boiling point/range: Not determined
Melting point/ range: Not available.
Specific gravity: 1.0
Vapor density: Not determined
Flash point: 158.00 - 172.00 °C (316.4 - 341.6 °F) no method
Flammable/Explosive limits - lower: Not applicable
Flammable/Explosive limits - upper: Not applicable
Autoignition temperature: Not available.
Evaporation rate: < 1 (Butyl acetate = 1)
Solubility in water: Insoluble
Partition coefficient (n-octanol/water): Not determined
VOC content: 0 g/l

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: Will not occur.

Hazardous decomposition products: Oxides of carbon.

Incompatible materials: None known

Conditions to avoid: None known

11. TOXICOLOGICAL INFORMATION

Acute oral product toxicity: LD50 (rat) > 5,000 mg/kg

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Diethylene Glycol	No	No	No

Hazardous components	Health Effects/Target Organs
Diethylene Glycol	Central nervous system, Irritant, Kidney, Liver

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Legal disposition of wastes is the responsibility of the owner/generator of the waste. Applicable federal, state and/or local regulations must be followed during treatment, storage, or disposal of waste containing this product.

Hazardous waste number: To the best of our knowledge, this product is not listed nor does it meet the criteria of a hazardous waste if discarded in its purchased form. However, under RCRA, it is the responsibility of the user to determine at the time of disposal whether a product meets any of the RCRA hazardous waste criteria. This is because product uses, transformations, mixtures, processes, etc., may render the resulting material hazardous, under the criteria of ignitability, corrosivity, reactivity and toxicity characteristics under the new Toxicity Characteristics Leaching Procedure (TCLP) 40 Code of Federal Regulations 261.20-24.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: One or more components of this product are not listed on the U.S. Toxic Substances Control Act (TSCA) inventory. As such, this product may only be used for research and development purposes as described in 40 CFR 720.36. All other components of this product are listed or are exempt from listing.

TSCA 12(b) Export Notification: None above reporting de minimus

CERCLA/SARA Section 302 EHS: None above reporting de minimus
CERCLA/SARA Section 311/312: Immediate Health
CERCLA/SARA 313: None above reporting de minimus

California Proposition 65: This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDL Status: One or more components are not listed on, and are not exempt from listing on either the Domestic Substances List or the Non-Domestic Substances List.

WHMIS hazard class: D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format.

Prepared by: Carrie Oswald, Regulatory Affairs Specialist

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