1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: BLK CONTACT ADHES
Item No.: 20-4144
Product Type: Adhesive

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
METHYL ETHYL KETONE*	78-93-3	20-25
TOLUENE*	108-88-3	20-25
ACETONE	67-64-1	15-20
n-HEXANE*	110-54-3	10-15
Phenolic-formaldehyde resin	54579-44-1	5-10
MAGNESIUM OXIDE	1309-48-4	1-5
Petroleum naphtha copolymer	68527-25-3	1-5
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-5
CARBON BLACK	1333-86-4	0.1-1

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

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
METHYL ETHYL KETONE	200 ppm TWA 590 mg/m3	200 ppm TWA 590 mg/m3	None
TOLUENE	50 ppm skin 188 mg/M3 skin	100 ppm 375mg/M3	None
ACETONE	500 ppm TWA 1188 mg/m3	1000 ppm TWA 2400 mg/m3	None
n-HEXANE	50 ppmTWA(skin)	500 ppm TWA 1800 mg/M3	None
MAGNESIUM OXIDE	10 mg/m3 (fume) particulate	15 mg/m3 (fume) particulate	None
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust
CARBON BLACK	3.5 mg/m3 TWA	3.5 mg/m3 TWA	5ppm

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
METHYL ETHYL KETONE	300 ppm 885 mg/m3	300 ppm 885 mg/m3
TOLUENE	None	150 ppm 560mg/M3
ACETONE	750 ppm 1782 mg/m3	None

3. HAZARDS IDENTIFICATION

Toxicity:

Irritating to the eyes, skin, and respiratory tract. Exposure to vapor or mist is possible. Short-term inhalation toxicity is low. Breathing small amounts during normal handling is not likely to cause harmful effects; breathing large amounts may be harmful. Single dose toxicity is low. Swallowing small amounts during normal handling is not likely to cause harmful effects; swallowing large amounts may be harmful.
Some reports have associated repeated and prolonged exposure to solvents with permanent brain damage and nervous system damage (sometimes referred to as "solvent" or "painter's syndrome"). Symptoms reported included fatigue, concentration difficulties, anxiety, depression, rapid mood swings, and short-term memory loss. These reports are not clear with regards to the type of solvents that cause these symptoms. There also is controversy among scientists as to whether the condition exists or is caused by this type of product. Since many diseases cause some or all of these symptoms, a doctor should be consulted if any symptoms appear.
This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animals. The relevance to these findings to humans is

3. HAZARDS IDENTIFICATION (continued)

uncertain.
This material (or a component) shortens the time of onset or worsens the liver and kidney damage induced by other chemicals.
Overexposure to this material (or its components) has apparently been found to cause the following effects in laboratory animals: 1) Liver abnormalities 2) Kidney damage 3) Nasal damage 4) Brain damage.
Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: 1) Mild, reversible liver effects/damage 2) Mild, reversible kidney effects/damage 3) Nervous system damage 4) Lung damage 5) Nasal damage 6) Testis damage 7) Central Nervous System Effects 8) Visual Impairment.
TOLUENE: Intentional misuse by deliberate inhalation of toluene has been associated with liver, kidney, and brain damage in humans.
Repeated exposure to toluene has been associated with high frequency hearing loss based on evidence in laboratory animals; the human health consequences of this finding is uncertain.
Based on animal studies, exposure to METHYL ETHYL KETONE (MEK) increases the onset of peripheral neuropathy caused by exposure to Methyl Butyl Ketone (MBK) and/or N-HEXANE, and/or Ethyl Butyl Ketone. MEK, alone, has not been shown to cause peripheral neuropathy.
n-HEXANE: Prolonged and repeated exposure to n-Hexane may cause peripheral neuropathy by damaging peripheral nerve tissue (that of arms and legs) and result in muscular weakness and loss of sensation.

Primary Routes of Entry: Eye and skin contact, ingestion, inhalation.

Signs and Symptoms of Exposure:

EYES: Exposure to liquid or vapor causes mild eye irritation. Symptoms may include burning, tearing, redness, stinging, blurred vision, and corneal injury.
SKIN: Exposure may cause mild skin irritation. Prolonged or repeated exposure may dry the skin. Symptoms may include redness, burning, drying, cracking and skin burns. Pre-existing skin disorders may be aggravated by exposure to this material. Skin absorption is possible, but harmful effects are not expected from this route of exposure under normal conditions of handling and use.
BREATHING: Symptoms are typically seen at air concentrations exceeding the recommended exposure limits. Symptoms of exposure may include: 1) Nasal and respiratory irritation (nose, throat, and lung)-pre-existing lung disorder, e.g. asthma-like conditions, may be aggravated by exposure to this material. 2) Central Nervous System (CNS) Depression/Effect (dizziness, drowsiness, weakness, fatigue, nausea, headache, possible unconsciousness, coma, and even death). 3) Cardiac arrhythmias (irregular heartbeat) 4) Cough
SWALLOWING: This material can enter the lungs during swallowing or vomiting and cause lung inflammation and/or damage. Aspiration of material into the lungs can cause chemical pneumonia which can be fatal. Symptoms of exposure may include: 1) Throat irritation 2) Gastrointestinal irritation (nausea, vomiting, diarrhea) 3) Central Nervous System (CNS) Depression/Effect (dizziness, drowsiness, weakness, fatigue, nausea, headache, possible unconsciousness, coma, and even death) 4) High blood sugar

Existing Conditions Aggravated by Exposure: Toluene: Eye, liver, skin, respiratory and central nervous system diseases; alcoholism.
Methyl ethyl ketone: Eye problems, skin and respiratory disorders.
These or other components may also aggravate pre-existing disorders of these organs: liver, kidney, nervous system, lung, nose, testis, eyes.

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3. HAZARDS IDENTIFICATION (continued)

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
METHYL ETHYL KETONE	CNS IRR	NO	N/A	NO
TOLUENE	BEH CAR CNS DEV EAR IRR	NO	NO	NO
ACETONE	BLO CNS IRR	NO	NO	NO
n-HEXANE	DEV IRR LUN NER REP	NO	NO	NO
Phenolic-formaldehyde resin	No Data	NO	NO	NO
MAGNESIUM OXIDE	BLO CNS IMM IRR	NO	NO	NO
Petroleum naphtha copolymer	No Data	NO	NO	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO
CARBON BLACK	RES	NO	2B	NO

Abbreviations

N/A Not Applicable	2B Possibly carcinogenic to humans
BEH Behavioral	BLO Blood
CAR Cardiac	CNS Central nervous system
DEV Developmental	EAR Ear
IMM Immune system	IRR Irritant
LUN Lung	NER Nervous System
NUI Nuisance dust	REP Reproductive
RES Respiratory	

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. This material is an aspiration hazard. If individual is drowsy or unconscious, place on left side with head down. Seek medical attention. If possible, do not leave individual unattended. Aspiration of material into lungs can cause chemical pneumonia, which can be fatal.

Inhalation: If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention. Keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Skin Contact: Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, apply a clean dressing and seek immediate medical attention. If skin is not damaged, wash exposed area with soap and water. If symptons persist, seek medical attention. Launder clothing before reuse.

Eye Contact: If symptoms develop, move individual away from exposure and into fresh air. Flush eyes with water for at least 15 minutes while holding eyelids apart. Seek medical attention.

5. FIRE FIGHTING MEASURES

Flash Point: -10°F Method: Tag Closed Cup

Recommended Extinguishing Agents: Carbon dioxide, foam, dry chemical

Special Firefighting Procedures: Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. All five gallon pails and larger metal containers should be grounded and/or bonded when material is transferred. Material is highly volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors static discharge, or other ignition sources at locations distant from material handling point. WARNING! Sudden release of hot organic chemical vapors or mist from process equipment operated at elevated temperature and pressure or sudden ingress of air into vacuum equipment may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operation temperatures in chemical processes without analysis of the actual processes conditions. Any use of this product at elevated

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5. FIRE FIGHTING MEASURES (continued)

temperature processes should be thoroughly evaluated to establish and maintain safe operation conditions.
Hydrocarbon solvents are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering or pumping at high flow rates. If this charge reaches a significantly high level, sparks can form that may ignite vapors of flammable liquids.

Hazardous Products formed by Fire or Thermal Decomp: Irritating organic vapors, oxides of carbon, hydrocarbons.

Unusual Fire or Explosion Hazards: None

Explosive Limits:
(% by volume in air) Lower: 1%
(% by volume in air) Upper: Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks.) Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source; dike area to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers, which should be kept closed until disposal. Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred

7. HANDLING AND STORAGE

Safe Storage: Store away from heat and flames. Do not store at temperatures above 120°F.

(Contact Loctite Customer Service 1-800-243-4874 for shelf life information)

Handling: Keep container closed. Loosen closure cautiously before opening. Store in a cool, well ventilated place away from incompatibile materials (oxidizing agents and acids). Keep away from heat, sparks and flame. Protect material from direct sunlight. Ground and bond containers when transferring materials. Empty contaners may retain hazardous properties. Follow all MSDS/label warnings even after container is emptied.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes: Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other types of safety glasses. Consult your safety representative for specific recommendations.

Skin: Wear resistant gloves. Consult your safety representative for specific recommendations. To prevent prolonged or repeated skin contact, wear impervious clothing and boots. Consult your safety representative for specific recommendations.

Ventilation: Sufficient to maintain vapor concentration below TLV and lower explosive limit. Explosion proof equipment should be considered. Local and general mechanical exhaust ventilation should be used.

Respiratory: A NIOSH/MSHA jointly approved air supplied respirator is advised in absence of proper environmental control.

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Black liquid.
Odor: Solvent
Boiling Point: 133°F
pH: Does not apply
Solubility in Water: Negligible
Specific Gravity: 0.88

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9. PHYSICAL AND CHEMICAL PROPERTIES (continued)

Volatile Organic Compound (EPA Method 24)	51% by weight; 452 g/l; 3.76 lb/gal
Vapor Pressure:	181mm Hg
Vapor Density:	2.71
Evaporation Rate (Ether = 1)	14.1 (butyl acetate=1)

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers, acids
Conditions to Avoid:	Heat, sparks, flames,and other sources of ignition
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	D001/D035 - Hazardous waste per 40CFR 261.21 and a TCLP waste per 261.24/Methyl Ethyl Ketone and benzene.

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport

Proper Shipping Name:	Consumer Commodity (Not more than one liter); Adhesives (More than one liter)
Hazard Class or Division:	ORM-D (Not more than one liter); Class 3, Packing Group II (More than one liter)
Identification Number:	None (Not more than one liter); UN 1133 (More than one liter)
Marine Pollutant:	None

IATA

Proper Shipping Name:	Consumer Commodity (Not more than 500 ml) Adhesives (More than 500 ml)
Class or Division:	Class 9 (Not more than 500 ml) Class 3, Packing Group II (more than 500 ml)
UN or ID Number:	ID 8000 (Not more than 500 ml) UN 1133 (More than 500 ml)

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Toluene, Benzene, Carbon Black

16. OTHER INFORMATION

Estimated NFPA(R) Code:

Health Hazard:	2
Fire Hazard:	3
Reactivity Hazard:	0
Specific Hazard:	Does not apply

Estimated HMIS(R) Code:

Health Hazard:	2*
Flammability Hazard:	3
Reactivity Hazards:	0
Personal Protection:	See Section 8.

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

Prepared By: Rajal Dhruva
Title: Health & Regulatory Affairs
Company: Henkel Loctite Corporation, Rocky Hill CT 06067

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16. OTHER INFORMATION (continued)

(24hr.) Phone: (860) 571-5100
Revision Date: February 26, 2003 Revision: 0009