

MATERIAL SAFETY DATA SHEET

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I. CHEMICAL PRODUCT IDENTIFICATION

Product Name: TITEBOND HEAVY DUTY CONSTRUCTION
 ADHESIVE

HMIS Ratings:

Health: Moderate(2)
 Flammability: Serious(3)
 Instability/Reactivity: Minimal(0)

NFPA Ratings:

Health: Minimal(0)
 Flammability: Minimal(0)
 Instability/Reactivity: Minimal(0)

Other:

EMERGENCY OVERVIEW: PRODUCT IS A BEIGE, MEDIUM VISCOSITY MASTIC. DANGER: EXTREMELY FLAMMABLE, VAPOR HARMFUL, CONTAINS ACETONE, TOLUENE AND HEXANE. VAPORS CAN CAUSE FLASH FIRE. VAPORS CAN IGNITE EXPLOSIVELY. PREVENT BUILDUP OF VAPORS BY OPENING ALL WINDOWS AND DOORS TO CREATE CROSS-VENTILATION. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. DO NOT SMOKE. TURN OFF STOVES, HEATERS AND SPARKING ELECTRIC MOTORS. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. AVOID PROLONGED BREATHING OF VAPOR. KEEP OUT OF THE EACH OF CHILDREN.

II. COMPOSITION, INFORMATION ON INGREDIENTS

Chemical Ingredients	C.A.S. Number	% By Weight	ACGIH TLV TWA/STEL	OSHA PEL TWA/STEL	Other TWA/STEL	LD50	LC50
ACETONE	67-64-1	13.35	500 PPM 1000 PPM	1000 PPM NOT ESTABLISHED			
<i>Notes</i>							
HEXANE	110-54-3	13.18	50 PPM NOT ESTABLISHED	500 PPM NOT ESTABLISHED			
<i>Notes</i>							
TOLUENE	108-88-3	8.31	50 PPM NOT ESTABLISHED	200 PPM NOT ESTABLISHED			
<i>Notes</i>							
OSHA CEILING FOR TOLUENE IS 300 PPM.							

III. HAZARDS IDENTIFICATION PRIMARY ROUTE OF ENTRY

Eyes: YES. SUBSTANCE MAY CAUSE SEVERE EYE IRRITATION.

Skin: YES. MAY BE HARMFUL IF ABSORBED THROUGH SKIN, MAY PRODUCE KIDNEY, LIVER AND CENTRAL NERVOUS SYSTEM DAMAGE. A SINGLE EXPOSURE IS NOT LIKELY TO RESULT IN THE MATERIAL BEING ABSORBED THROUGH THE SKIN IN HARMFUL AMOUNTS.

Ingestion: YES. INGESTION IS NOT A PROBABLE ROUTE OF EXPOSURE. HARMFUL IF SWALLOWED.

Inhalation: YES. AVOID BREATHING VAPOR OR MISTS. MAY CAUSE HEADACHES AND DIZZINESS. HIGH VAPOR CONCENTRATIONS ARE IRRITATING TO THE NOSE, THROAT AND LUNGS AND CAN CAUSE SYSTEMIC EFFECTS. VAPORS CAN

READILY ACCUMULATE IN CONFINED OR POORLY VENTILATED AREAS.

Signs and Symptoms of Exposure: REPEATED AND PROLONGED OVEREXPOSURE TO THE MIXTURE OF SOLVENT(S) LISTED IN SECTION II CAN RESULT IN SYSTEMIC EFFECTS INCLUDING PERMANENT BRAIN, NERVOUS SYSTEM, LIVER, AND KIDNEY DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.
 TARGET ORGANS: PROLONGED OR REPEATED OVEREXPOSURE MAY CAUSE EYE, SKIN, RESPIRATORY SYSTEM, CENTRAL NERVOUS SYSTEM, PERIPHERAL NERVOUS SYSTEM, LIVER AND KIDNEY DAMAGE.

IV. FIRST AID MEASURES

Eyes: HOLD EYELIDS APART AND FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK MEDICAL ATTENTION.

Skin: WASH WITH SOAP AND WATER. CONTACT A PHYSICIAN IF IRRITATION DEVELOPS OR PERSISTS.

Ingestion: CALL POISON CONTROL CENTER IMMEDIATELY. FOLLOW THEIR SPECIFIC INSTRUCTIONS. DO NOT INDUCE VOMITING.

Inhalation: REMOVE TO FRESH AIR. IF DIFFICULTY PERSISTS SEEK MEDICAL ATTENTION.

Other: EPINEPHERINE AND OTHER SYMPATHOMIMETIC DRUGS MAY INITIATE CARDIAC ARRHYTHMIAS (IRREGULAR BEATING) IN PERSONS EXPOSED TO HIGH CONCENTRATIONS OF HEXANE (E.G. IN ENCLOSED SPACES OR WITH DELIBERATE ABUSE). IF USED, MONITOR HEART ACTION CLOSELY. CONSIDER USE OF OTHER DRUGS WITH LESS ARRHYTHMOGENIC POTENTIAL.

V. FIRE FIGHTING MEASURES

Flash Point: <0F

Test Method: SETAFLASH

Lower Flammability Limit: 1.2%

Upper Flammability Limit: 12.8%

Extinguishing Agents: USE ALCOHOL FOAM, CARBON DIOXIDE, OR DRY CHEMICAL WHEN FIGHTING FIRES INVOLVING THIS PRODUCT.

Unusual Fire or Explosion Hazards: OXIDES OF CARBON MAY BE RELEASED DURING COMBUSTION.

Fire Fighting Procedures: WEAR A NIOSH APPROVED SELF CONTAINED BREATHING APPARATUS. WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT. WATER MAY BE INEFFECTIVE, BUT MAY BE USED TO COOL EXPOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTO IGNITION OR EXPLOSION WHEN EXPOSED TO EXTREME HEAT.

Other: FLAMMABLE CLASS (OSHA) IB.
 FLAMMABLE LIQUID. CAN FORM EXPLOSIVE MIXTURES AT TEMPERATURES AT OR ABOVE FLASHPOINT.

VI. ACCIDENTAL RELEASE MEASURES

Containment/Cleanup: CONTAINMENT:
USE INERT ABSORBENT TO DIKE THE SPILL. KEEP AWAY FROM DRAINS.
 CLEAN-UP:
 IF POSSIBLE PUMP LIQUID INTO AN APPROVED CONTAINER OR SPREAD ABSORBENT OVER SPILL AND SHOVEL (USE NON-SPARKING EQUIPMENT) PRODUCT/ABSORBENT OVER MIXTURE INTO AN APPROVED CONTAINER. IF PRODUCT HAS DRIED, SCRAPE UP AND

PLACE IN AN APPROVED CONTAINER.

Other: EMERGENCY MEASURES:
ISOLATE HAZARD AREA. KEEP UNNECESSARY AND UNPROTECTED PERSONNEL FROM ENTERING AREA. WEAR ALL APPROPRIATE PERSONAL PROTECTION EQUIPMENT (PPE).

VII. HANDLING AND STORAGE

Other: HANDLING:
 AVOID BREATHING VAPORS FROM THE HEADSPACE OF CONTAINERS.
 KEEP LID CLOSED WHEN NOT IN USE.
 USE ONLY IN WELL VENTILATED AREA.
 FOLLOW ALL MSDS/LABEL PRECAUTIONS EVEN AFTER CONTAINER IS EMPTIED.
 CONTAINERS MAY RETAIN PRODUCT RESIDUES AND VAPORS.
 STORAGE:
 KEEP AWAY FROM SOURCES OF IGNITION.
 DO NOT STORE ABOVE 110°F. STORE LARGE QUANTITIES IN BUILDINGS DESIGNED AND PROTECTED FROM STORAGE OF NFPA CLASS 1-B FLAMMABLE MATERIALS.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eyes: CHEMICAL SPLASH GOGGLES (ANSI Z87.1 OR APPROVED EQUIVALENT).

Skin: WHERE SKIN CONTACT CAN OCCUR, WEAR IMPERVIOUS GLOVES.

Respiratory: WHERE EXPOSURE LIMITS MAY BE EXCEEDED SELECT A NIOSH APPROVED RESPIRATOR WITH APPROPRIATE PROTECTION FACTOR AND CARTRIDGE FOR THE SPECIFIC CONTAMINANTS. FOLLOW REQUIREMENTS FOR RESPIRATORY PROTECTION IN OSHA 1910.134.

Engineering: USE LOCAL EXHAUST AS NEEDED TO MAINTAIN OCCUPATIONAL EXPOSURE LIMITS. MAINTAIN STANDARD PLANT VENTILATION.

Other: FACILITIES STORING OR UTILIZING ANY CHEMICAL SHOULD BE EQUIPPED WITH AN EYEWASH FACILITY AND A SAFETY SHOWER.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: BEIGE MASTIC
Boiling Point: 121°F
pH: NOT APPLICABLE
Solubility in Water: NIL
Specific Gravity: 1.08
Volatile Content: % VOLATILE: 34%
 VOC: 282 G/L

Other: EVAPORATION RATE: FASTER THAN N-BUTYL ACETATE.

X. STABILITY AND REACTIVITY

Stability: THIS PRODUCT IS STABLE

Hazardous Polymerization: WILL NOT OCCUR

Hazardous Decomposition: WILL NOT OCCUR

Products:

Incompatible Products: STRONG OXIDIZING AGENTS, ACIDS AND BASES

Conditions To Avoid: HEAT, SPARKS, OPEN FLAME

XI. TOXICOLOGICAL INFORMATION

Acute Toxicology Data: ACETONE – ACUTE:
 ACETONE HAS A LOW ORDER OF ACUTE AND INHALATION TOXICITY. ACETONE IS A SLIGHT SKIN IRRITANT AND MODERATELY SEVERE EYE IRRITANT. EXCESSIVE INHALATION CAN CAUSE HEADACHE, DRUNKENNESS, AND WEAKNESS.
 ACETONE – CHRONIC:
 KIDNEY DAMAGE AND ANEMIA CAN RESULT FROM SUSTAINED HIGH LEVEL EXPOSURE. ACETONE IS REPORTED TO POTENTIATE THE LIVER TOXICITY OF CHLOROFORM.
 HEXANE – ACUTE:
 INGESTION OF HEXANE CAN CAUSE NAUSEA, VOMITING, STOMACH PAIN, AND DIARRHEA. HEXANE CAN IRRITATE THE SKIN AND EYES. ACUTELY, THE MOST COMMON TOXIC EFFECTS ARE CENTRAL NERVOUS SYSTEM DEPRESSION AND CHEMICAL PNEUMONITIS RESULTING FROM ASPIRATION INTO THE LUNGS FOLLOWING INGESTION.
 HEXANE – CHRONIC: DERMAL IRRITATION AND CENTRAL NERVOUS SYSTEM DEPRESSION ACCOMPANIED BY PERIPHERAL SYSTEM DAMAGE (POLYNEUROPATHY) ARE COMMON TRAITS OF SUSTAINED OVEREXPOSURE.
 TOLUENE ACUTE
 TOLUENE IS A CENTRAL NERVOUS SYSTEM DEPRESSANT AND SKIN AND MUCOUS MEMBRANE IRRITANT. SEVERE DERMATITIS MAY RESULT FROM ITS DRYING AND DEFATTING ACTION. TOLUENE IS AN ASPIRATION HAZARD CAUSING CHEMICAL PNEUMONITIS.
 TOLUENE CHRONIC
 TOLUENE CAN CAUSE CARDIAC SENSITIZATION. IT IS TOXIC TO THE KIDNEY, LIVER AND CAN CAUSE EFFECTS ON THE BLOOD SYSTEM SUCH AS INCREASED CLOTTING TIME.
 TOLUENE MAY BE HARMFUL TO THE HUMAN FETUS BASED ON POSITIVE TEST RESULTS IN LABORATORY ANIMALS. CASE STUDIES SHOW THAT PROLONGED INTENTIONAL ABUSE OF TOLUENE DURING PREGNANCY CAN CAUSE BIRTH DEFECTS IN HUMANS.

Special Hazard Information:

REPRODUCTIVE TOXICITY: TOLUENE MAY BE HARMFUL TO THE HUMAN FETUS BASED ON POSITIVE TEST RESULTS WITH LABORATORY ANIMALS. CASE STUDIES SHOW THAT PROLONGED INTENTIONAL ABUSE OF TOLUENE DURING PREGNANCY CAN CAUSE BIRTH DEFECTS IN HUMANS. TARGET ORGANS: PROLONGED OR REPEATED OVEREXPOSURE MAY CAUSE EYE, SKIN, RESPIRATORY SYSTEM, CENTRAL NERVOUS SYSTEM, PERIPHERAL NERVOUS SYSTEM, LIVER AND KIDNEY DAMAGE.

XII. ECOLOGICAL INFORMATION

Other: THIS FORMULATION HAS NOT BEEN TESTED FOR ENVIRONMENTAL EFFECTS.

XIII. DISPOSAL CONSIDERATIONS

Disposal Method: WASTE DISPOSAL:
 DISPOSAL OF THIS PRODUCT MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
CONTAINER DISPOSAL:
DISPOSAL OF THIS CONTAINER MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

XIV. TRANSPORT INFORMATION

D.O.T. Shipping Name: CONSUMER COMMODITY

Other: FOR ANY 10.5 OUNCE SIZE OF THIS PRODUCT AND FOR ALL 29 OUNCE TO 1 GALLON SIZES OF THIS PRODUCT NOT SHIPPED BY AIR:
 DOT:
 UN NUMBER: NONE
 UN PACK GROUP: NOT APPLICABLE
 UN CLASS: ORM-D
 SHIPPING NAME: CONSUMER COMMODITY
 AIR:
 UN NUMBER: ID8000
 UN PACK GROUP: NOT APPLICABLE
 UN CLASS: 9
 ICAO/IATA CLASS: 9
 SHIPPING NAME: CONSUMER COMMODITY
 MARITIME:
 UN NUMBER: NONE
 UN PACK GROUP: NOT APPLICABLE
 UN CLASS: NOT APPLICABLE
 IMDG CLASS: NOT APPLICABLE
 SHIPPING NAME: DANGEROUS GOODS IN LIMITED QUANTITIES OF CLASS 3

FOR AIR SHIPMENTS OF 29 OUNCE TO 1 GALLON SIZES OF THIS PRODUCT OR ANY SHIPMENT OF THIS PRODUCT IN MORE THAN A ONE GALLON CONTAINER:
 UN NUMBER: UN1133
 UN PACK GROUP: III
 UN CLASS: 3
 ICAO/IATA CLASS: 3
 IMDG

CLASS: 3
 SHIPPING NAME: ADHESIVES CONTAINING A FLAMMABLE LIQUID
 PACKAGING MAY NOT BE APPROVED FOR SHIPPING BY AIR.

XV. REGULATORY INFORMATION

- TSCA Status:** ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY EXCEPT AS EXEMPTED.
- EPA Sara Title III Chemical Listings:** 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 HEXANE CAS# 110-54-3 %Wt. 13.18 Chemical TOLUENE CAS# 108--88-3 %Wt. 8.31
- California:** PROP 65 (TERATOGEN) WARNING:
 THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM:
Chemical TOLUENE CAS# 108--88-3 %Wt. 8.31
- New Jersey:** Chemical CLAY CAS# 1332-58-7 Chemical PETROLEUM HYDROCARBON RESIN CAS# 68131-99-7 Chemical STYRENE-BUTADIENE RUBBER CAS# 9003-55-8 Chemical ACETONE CAS# 67-64-1 Chemical HEXANE CAS# 110-54-3
- Pennsylvania:** HAZARDOUS COMPONENTS REQUIRED TO BE LISTED AT 1% OR MORE:
 Chemical ACETONE; 2-PROPANE CAS# 67-64-1
 Chemical TOLUENE, BENZENE, METHYL- CAS# 108--88-3 Chemical KAOLIN CLAY; KAOLIN CAS# 1332-58-7 Chemical HEXANE; HEXANE CAS# 110-54-3 Chemical CRYSTALLINE SILICA; QUARTZ CAS# 14808-60-7
 NON - HAZARDOUS INGREDIENTS REQUIRED TO BE LISTED AT 3%
 PETROLEUM HYDROCARBON RESIN CAS# 68131-99-7
PETROLEUM HYDROCARBON RESIN CAS# 68132-00-3
 STYRENE-BUTADIENE RUBBER CAS# 9003-55-8
- Other:** CARCINOGENICITY:
 IARC, NTP, OSHA: NO

XVI. OTHER INFORMATION

WARRANTY INFORMATION

THIS INFORMATION IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EXPRESSED OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE.