Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Common Name	**Wilsonart(R) 400 Contact Adhesive**
Supplier	WILSONART INTERNATIONAL INC. P.O. BOX 6110 - 2400 Wilson Place, Temple, TX 76503 Telephone: 800-433-3222 (USA) or 254-207-7000
Synonym	Also known as: Lokweld(R) 400
Trade name	Wilsonart(R) 400 Contact Adhesive
Material Uses	Adhesive for laminate.
Manufacturer	WILSONART INTERNATIONAL INC. P.O. BOX 6110 - 2400 Wilson Place, Temple, TX 76503 Telephone: 800-433-3222 (USA) or 254-207-7000

Code	16393USA
MSDS#	16393
Revision Date	**04/20/2002**
Responsible Name	**Wilsonart International Inc.**

In Case of Emergency CHEMTREC:
800-424-9300 (USA)
703-527-3887 (International)

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits
Toluene	108-88-3	5-15	TWA: 100 ppm STEL: 150 ppm OSHA (PEL); TWA: 50 ppm ACGIH (TLV) STEL: 150 ppm NIOSH
Hexane isomers	N/A	15-40	TWA: 1760 CEIL: 3500 mg/m^3 ACGIH (TLV); TWA: 500 ppm STEL: 1000 ppm ACGIH (TLV) TWA: 200 ppm DFG MAKs
Acetone	67-64-1	15-40	TWA: 500 ppm STEL: 1000 ppm [1997]; TWA: 750 ppm STEL: 1000 ppm CEIL: 1000 ppm ACGIH (TLV) [1989] TWA: 500 ppm DFG MAK TWA: 1000 ppm STEL: 1250 ppm [1989]
Methyl ethyl ketone	78-93-3	5-15	TWA: 200 ppm STEL: 300 ppm CEIL: 200 ppm; TWA: 590 mg/m^3 ACGIH
V.M.& P Naphtha	64742-89-8	15-40	TWA: 400 (ppm)
N-hexane	110-54-3	1-5	TWA: 176 mg/m^3 ACGIH (TLV); TWA: 50 ppm ACGIH (TLV) TWA: 200 ppm DFG MAKs

Section 3. Hazards Identification

Physical State and Appearance Light yellow liquid.

Emergency Overview

DANGER!
HIGHLY FLAMMABLE LIQUID AND VAPOR, VAPOR MAY CAUSE FLASH FIRE.
MAY BE HARMFUL IF INHALED.
CONTAINS MATERIAL WHICH MAY CAUSE KIDNEY AND/OR LIVER DAMAGE.
CAUSES SEVERE EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
TOXIC TO AQUATIC ORGANISMS.
USE ONLY WITH ADEQUATE VENTILATION.

Keep away from heat, sparks and flame. Avoid contact with eyes Avoid breathing vapors or spray mists. Avoid contact with skin and clothing. Keep container closed. Avoid exposure during pregnancy. Wash thoroughly after handling. Avoid contact of spilled material and runoff with soil and surface waterways.

Routes of Entry Absorbed through skin. Skin contact. Eye contact. Inhalation.

Potential Acute Health Effects

Eyes Very hazardous in case of eye contact (irritant).

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Skin	Hazardous in case of skin contact [irritant, permeator (absorbed through the intact skin)]. Non-sensitizer for skin.
Inhalation	Harmful if inhaled. Inhalation of the vapors may cause dizziness, nausea, headache, loss of consciousness, anaesthetic effects, or death. Central nervous system depression. Peripheral neuropathy (numbness in limbs). Deliberately concentrating and inhaling the vapors may be fatal.
Ingestion	Not an expected route of entry. Harmful if swallowed. Ingestion may cause severe gastric disturbances and vomiting.
Potential Chronic Health Effects	Repeated or prolonged exposure to the substance can produce damage to the kidneys, liver, nervous system and the respiratory system. Long term skin contact to solvents may produce defatting of the skin and dermatitis.
Medical Conditions Aggravated by Overexposure:	None known.
Overexposure /Signs/Symptoms	Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening. Inhalation of vapors may cause dizziness, an irregular heartbeat, narcosis, nausea or asphyxiation.

See Toxicological Information (section 11)

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.
Skin Contact	Wash contaminated skin with soap and water. If the product got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible. Place the victim under a deluge shower. Wash contaminated clothing before reusing. If irritation occurs, seek medical attention.
Inhalation	Allow the victim to rest in a well ventilated area. Oxygen may be administered if breathing is difficult. If irritation persists, seek medical attention.
Ingestion	Do not induce vomiting. Have conscious person drink several glasses of water or milk. NEVER give an unconscious person anything to ingest. Seek medical attention.
Notes to Physician	Sudden death due to ventricular fibrillation has been reported from acute inhalation in chronic solvent abusers. Treat patient supportively. Life support measures should be provided because CNS depression, cardiopulmonary failure, and metabolic acidosis have been reported in massive overexposures.

Section 5. Fire Fighting Measures

Flammability of the Product	Flammable.
Auto-ignition Temperature	The lowest known value is 225°C (437°F) (Hexane isomers).
Flash Points	CLOSED CUP: -23.9°C (-11°F). (Setaflash.)
Flammable Limits	LEL: 2.6% (Acetone) UEL: 12.8% (Acetone)
Products of Combustion	These products are carbon oxides (CO, CO2).
Fire Hazards in Presence of Various Substances	Highly flammable in presence of open flames and sparks, of heat. Flammable in presence of oxidizing materials. Slightly flammable in presence of reducing materials. Non-flammable in presence of moisture.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive to explosive in presence of oxidizing materials.
Fire Fighting Media and Instructions	Flammable liquid, insoluble in water. SMALL SPILL: Use DRY chemicals, CO2, alcohol foam or water spray. LARGE SPILL: Use DRY chemicals, CO2, water spray or foam. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

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Protective Clothing (Fire)	Fire fighting requires the use of a self contained breathing apparatus with a full face piece and pressure-demand or other positive-pressure mode.
Special Remarks on Fire Hazards	Container explosion may occur under fire conditions or when heated.
Special Remarks on Explosion Hazards	All electrical equipment in the area must be rated for flammable liquids. [Dispensing - Class I, Division 1; Storage - Class 1, Division 2] Ground all equipment containing material.

Section 6. Accidental Release Measures

Small Spill and Leak	Absorb with an inert material and place in an appropriate waste disposal container.
Large Spill and Leak	Flammable liquid. Eliminate all ignition sources. Stop leak if without risk. Prevent entry into sewers, basements or confined areas; dike if needed. Absorb with an inert material and put the spilled material in an appropriate waste disposal container. Do not use metal tools or equipment.

Section 7. Handling and Storage

Handling	Avoid breathing vapors or spray mists. Avoid contact with skin and eyes. Use only with adequate ventilation. After handling, always wash hands thoroughly with soap and water. Ground all equipment containing material. Do not use in presence of electrostatic discharges. Eliminate all ignition sources. When using do not smoke.
Storage	Keep in a cool, well-ventilated place. Flammable materials should be stored in a separate safety storage cabinet or room. Ground all equipment containing material. Keep out of the reach of children

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value(s). Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	
Eyes	Splash goggles.
Body	Synthetic apron.
Respiratory	In case of insufficient ventilation, wear an approved (NIOSH) respirator with organic vapor cartridges with dust/mist pre-filter.
Hands	Gloves (Viton, nitrile, or neoprene).
Feet	No special precautions are necessary if used as intended.
Protective Clothing (Pictograms)	
Personal Protection in Case of a Large Spill	A self contained breathing apparatus should be used to avoid inhalation of the product. Gloves (Viton, nitrile, or neoprene). Splash goggles. Boots. Full suit.

Product Name	Exposure Limits
Toluene	TWA: 100 ppm STEL: 150 ppm OSHA (PEL); TWA: 50 ppm ACGIH (TLV) STEL: 150 ppm NIOSH
Hexane isomers	TWA: 1760 CEIL: 3500 mg/m^3 ACGIH (TLV); TWA: 500 ppm STEL: 1000 ppm ACGIH (TLV) TWA: 200 ppm DFG MAKs
Acetone	TWA: 500 ppm STEL: 1000 ppm [1997]; TWA: 750 ppm STEL: 1000 ppm CEIL: 1000 ppm ACGIH (TLV) [1989] TWA: 500 ppm DFG MAK TWA: 1000 ppm STEL: 1250 ppm [1989]
Methyl ethyl ketone	TWA: 200 ppm STEL: 300 ppm CEIL: 200 ppm; TWA: 590 mg/m^3 ACGIH
V.M.& P Naphtha	TWA: 400 (ppm)
n-Hexane	TWA: 176 mg/m^3 ACGIH (TLV); TWA: 50 ppm ACGIH (TLV) TWA: 200 ppm DFG MAKs

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Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Light yellow liquid.
Molecular Weight	Not applicable.
Molecular Formula	Not applicable.

Odor	ketone odor (Strong.)
Taste	Not available.
Color	Colorless to light yellow.

pH (1% Soln/Water)	Not available.
Boiling/Condensation Point	55.6°C (132°F)
Melting/Freezing Point	May start to solidify at 8.63°C (47.5°F) based on data for: Methyl ethyl ketone. Weighted average: -78.76°C (-109.8°F)
Critical Temperature	The lowest known value is 234.2°C (453.6°F) (Hexane isomers).
Specific Gravity	0.817 (Water = 1)
Vapor Pressure	185 mm of Hg (@ 20°C)
Vapor Density	The highest known value is 3.14 (Air = 1) (Toluene). Weighted average: 2.6 (Air = 1)
Volatility	80%
Odor Threshold	The highest known value is 13 ppm (Acetone) Weighted average: 7.58 ppm
Evaporation Rate	2.7 (Methyl ethyl ketone) compared to Ether (anhydrous).
VOC	V.O.C. Content (SCAQMD): 593 g/L; 4.95 lbs/gal. (less water and exempt compounds) MAXIMUM V.O.C.: 478 g/L; 3.98 lbs/gal. VHAPS: 0.80 lbs. VHAP/lbs. solid
Viscosity	725 cps (Brookfield Viscometer) 21.0 sec (Stormer Viscometer)
$LogK_{ow}$	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	Not available.
Solubility	Insoluble in water.
Physical Chemical Comments	Not available.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	No additional information.
Incompatibility with Various Substances	Reactive with acids, alkalis, oxidizing agents, reducing agents, combustible materials.
Hazardous Decomposition Products	Products of Combustion include: carbon oxides (CO, CO2)
Hazardous Polymerization	Will not occur.

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Section 11. Toxicological Information

Toxicity to Animals	**WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.** Acute oral toxicity (LD50): 2600 mg/kg [Rat]. (Toluene). Acute dermal toxicity (LD50): 6480 mg/kg [Rabbit]. (Methyl ethyl ketone). Acute toxicity of the vapor (LC50): 7523.6 ppm 4 hour(s) [Mouse]. (Toluene). N-hexane is a neurotoxin.
Chronic Effects on Humans	**CARCINOGENIC EFFECTS**: Not classifiable for human or animal. **MUTAGENIC EFFECTS**: Classified None. **TERATOGENIC EFFECTS**: Classified PROVEN for human [Toluene]. The substance is toxic to kidneys, liver, central nervous system (CNS). Peripheral neuropathy (numbness in limbs). Reports of spontaneous abortion in pregnant females who abusively concentrated and inhaled toluene.
Other Toxic Effects on Humans	Hazardous in case of skin contact [irritant, Permeator (absorbed through the intact skin)], contact with eyes, inhalation or ingestion. Irritating to eyes. Non-sensitizer for skin. Non-sensitizer for lungs.
Special Remarks on Toxicity to Animals	No additional remark.
Special Remarks on Chronic Effects on Humans	No additional information.
Special Remarks on Other Toxic Effects on Humans	No additional information.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Biodegradable/OECD	Not available.
Mobility	Not available.
Toxicity of the Products of Biodegradation	Not available.
Special Remarks on the Products of Biodegradation	No additional remark.

Section 13. Disposal Considerations

Waste Information	Spilled, contaminated, or waste material should be put into a suitable container and handled according to local, state/provincial, and federal regulations. Contact a qualified waste management company in your area for assistance. EMPTY CONTAINERS: Empty containers should be either reconditioned by CERTIFIED firms or properly disposed of by APPROVED firms. Disposal of containers should be in accordance with applicable laws and regulations. "Empty" drums should not be given to individuals. Serious accidents have resulted from the misuse of "emptied" containers. Residual vapors may in the container(s) may be explosive. Do not cut, weld, or braze these containers.
Waste Stream	Not available.

Consult your local or regional authorities.

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Section 14. Transport Information

DOT Classification	DOT CLASS 3: Flammable liquid, UN 1133 
Marine Pollutant	Not a Marine Pollutant. 
Special Provisions for Transport	No additional remark.
ADR/RID Classification	Class 3: Flammable liquid A.
IMO/IMDG Classification	IMDG CLASS 3: Flammable liquid.
ICAO/IATA Classification	IATA CLASS 3: Flammable liquid.

Section 15. Regulatory Information

HCS Classification	HCS CLASS: Flammable liquid IB having a flash point lower than 22.8°C (73°F) and a boiling point higher or equal to 37.8°C (100°F).
U.S. Federal Regulations	TSCA 4(a) proposed test rules: Acetone; N-hexane TSCA 4(a) final test rules: N-hexane TSCA 8(b) inventory: All ingredients are listed. TSCA 8(d) H and S data reporting: Toluene: 10/04/92; Methyl ethyl ketone: 10/4/92 - end TSCA 12(b) one time export: Acetone; N-hexane SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: Toluene; Acetone; N-hexane SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found. SARA 313 toxic chemical notification and release reporting: Toluene: 1%; Acetone; Methyl ethyl ketone: 1%; N-hexane: 1% Clean water act (CWA) 307: Toluene Clean water act (CWA) 311: Toluene Clean air act (CAA) 112 accidental release prevention: Methyl ethyl ketone Clean air act (CAA) 112 regulated flammable substances: No products were found. Clean air act (CAA) 112 regulated toxic substances: No products were found.
International Regulations	
EINECS	Toluene (203-625-9) Acetone (200-662-2) n-Hexane and its isomers (203-777-6) VM&P Naphtha (254-192-2) Methy ethyl ketone (201-159-0)
DSCL (EEC)	R11- Highly flammable. R36/38- Irritating to eyes and skin. R67 Vapours may cause drowsiness and dizziness.
International Lists	Australia: Toluene; Acetone; Methyl ethyl ketone; N-hexane China: Toluene; Acetone Germany water class: Toluene; N-hexane VCI WGK: Toluene; Methyl ethyl ketone Japan (MITI): Methyl ethyl ketone

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Korea (TCCL): Acetone

State Regulations

Connecticut carcinogen reporting list.: Toluene
Pennsylvania RTK: Toluene; Acetone; Methyl ethyl ketone; V.M.& P Naphtha; N-hexane
Florida: Toluene; Acetone; Methyl ethyl ketone; N-hexane
Minnesota: Toluene; Acetone; Methyl ethyl ketone; N-hexane
Massachusetts RTK: Toluene; Acetone; Methyl ethyl ketone; V.M.& P Naphtha; N-hexane
New Jersey: Toluene; Acetone; Methyl ethyl ketone; N-hexane

California Prop. 65: This product contains the following ingredients which the State of California has found to cause reproductive harm, which would require a warning under the statute: Toluene (CAS #108-88-3)

Section 16. Other Information

Label Requirements

HIGHLY FLAMMABLE LIQUID AND VAPOR, VAPOR MAY CAUSE FLASH FIRE.
MAY BE HARMFUL IF INHALED.
CONTAINS MATERIAL WHICH MAY CAUSE KIDNEY AND/OR LIVER DAMAGE.
CAUSES SEVERE EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
TOXIC TO AQUATIC ORGANISMS.
USE ONLY WITH ADEQUATE VENTILATION.

Hazardous Material Information System (U.S.A.)

Health	*	2
Fire Hazard		3
Reactivity		0
Personal Protection		C

National Fire Protection Association (U.S.A.)

References

-SAX, N.I. Dangerous Properties of Industrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984.
-Manufacturer's Material Safety Data Sheet.

GLOSSARY:
ACGIH - American Conference of Governmental Industrial Hygienists
ASTM - American Society for Testing and Materials
ADR - Agreement on Dangerous Goods by Road (Europe)
BOD5 - Biological Oxygen Demand in 5 days
CAS - Chemical Abstract Services
CEPA - Canadian Environmental Protection Act
CERCLA - Comprehensive Environmental Response, Compensation and Liability Act
CFR - Code of Federal Regulations
DOT - Department of Transportation
DSCL - Dangerous Substances Classification and Labeling (Europe)
DSL - Domestic Substance List (Canada)
EEC/EU - European Economic Community/European Union
EINECS - European Inventory of Existing Commercial Chemical Substances
HCS - Hazard Communication System
HMIS - Hazardous Material Information System
IARC - International Agency for Research on Cancer
LD50/LC50 - Lethal Dose/Concentration kill 50%
LDLo/LCLo - Lowest Published Lethal Dose/Concentration
NFPA - National Fire Prevention Association
NIOSH - National Institute for Occupational Safety & Health
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PEL - Permissible Exposure Limit
RCRA - Resource Conservation and Recovery Act
SARA - Superfund Amendments and Reorganization Act
STEL - Short Term Exposure Limit (15 minutes)
TDG - Transportation of Dangerous Goods (Canada)
TLV-TWA - Threshold Limit Value-Time Weighted Average
TSCA - Toxic Substances Control Act
WHMIS - Workplace Hazardous Material Information System

Other Special Considerations

TSCA (Toxic Substance Control Act): All components of this product are listed on the TSCA Inventory.
EINECS: All components of this product are on the European Inventory of Existing Commercial Chemical Substances.

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Last Revised 04/20/2002

CHEMTREC:
800-424-9300 (USA)
703-527-3887 (International)

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.