

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name: Permaweld TPO Bonding Adhesive

Company Identification

ERSystems, Inc.
6900 Bleck Dr.
Rockford, MN 55373 USA
1-800-403-7747 (For product information)
1-800-535-5053 (For emergencies)

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT LISTING:

<u>Chemical Name</u>	<u>Amount</u>	<u>CAS Number</u>
TOLUENE	50.0 - 75.0 %	108-88-3
HEPTANE,N-	5.0 - 20.0 %	142-82-5
HEXANE	5.0 - 20.0 %	110-54-3

(See Section 8 for exposure guidelines)

(See Section 15 for regulatory information)

HAZARDS DISCLOSURE

This product contains hazardous materials as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.



3. HAZARDS IDENTIFICATION

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***** EMERGENCY OVERVIEW *****
*
*                               CAUTION                               *
*
* Product is a flammable amber liquid. May be                      *
* harmful or fatal if swallowed or inhaled.                        *
* Inhalation of vapors in large amounts may cause CNS             *
* depression. This product is a pulmonary                          *
* respiration hazard.                                              *
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HMIS Rating - Health: 2*
Flammability: 3
Reactivity: 0
Personal Protection Index: Chemical goggles, impervious gloves

NFPA/HMIS Definitions: (0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

POTENTIAL HEALTH EFFECTS

EYE:

This product may cause irritation to the eyes. Vapors, fumes, or particles from this material will cause eye irritation. Symptoms include redness, swelling, tearing and blurred vision.

SKIN:

Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash). This product may be harmful if absorbed through the skin.

INHALATION:

This product is harmful or fatal if inhaled. Inhalation of vapors may cause irritation of the respiratory tract. Other symptoms may include signs of CNS depression involving weakness, dizziness, giddiness, loss of coordination and judgement. Sever overexposure may cause coma and death due to respiratory failure. This product contains significant amounts of n-hexane, which can damage the peripheral nervous system and produce paralysis, numbness, or tingling in the extremities. Chronic overexposure to vapors may produce symptoms including permanent damage to the central nervous system, birth defects and reproductive hazards.



(section 3 continued)

INGESTION:

This product may be harmful or fatal if swallowed. May cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.

4. FIRST AID MEASURES

EYE CONTACT FIRST AID:

Flush eye with water for 15 minutes. Get medical attention.

SKIN CONTACT FIRST AID:

Remove contaminated clothing and shoes. Wash affected area immediately with large amounts of soap and water. Get medical attention if irritation develops or persists. Wash clothing before reuse.

INHALATION FIRST AID:

Remove from area of exposure. Seek immediate medical attention.

INGESTION FIRST AID:

If swallowed, do NOT induce vomiting. Prevent aspiration of liquid into lungs by keeping head below hips. If individual is drowsy or unconscious, place on left side with head down. Get immediate medical attention.

NOTES TO PHYSICIAN:

This material, if aspirated into the lungs, may cause chemical pneumonitis; treat the affected person appropriately.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

TCC Flash Point: -17.8 C (0.0 F)

Autoignition Temperature: N/A

FLAMMABLE LIMITS IN AIR

LEL: 1.1 %

UEL: 7.5 %



(section 5 continued)

FLAMMABLE PROPERTIES:

Product is a flammable liquid. Fire and explosion hazards are moderate when this product is exposed to heat or flame. Vapors are heavier than air and may travel along the ground to some distant source of ignition and flash back. Do not cut, drill, grind, or weld near full, partially full, or empty product containers.

EXTINGUISHING MEDIA:

Water fog, carbon dioxide, foam or dry powder. Use water to cool fire-exposed containers and to protect personnel. Water may be an ineffective extinguishing medium.

FIRE & EXPLOSION HAZARDS:

Extremely Flammable. Vapors may ignite, and/or cause flash fires. Eliminate sources of ignition. No smoking. Use adequate ventilation. Vapors can travel to a source of ignition and flash back.

FIRE FIGHTING INSTRUCTIONS:

As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH (approved or equivalent) and full protective gear. Avoid breathing smoke, fumes, and decomposition products.

COMBUSTION PRODUCTS:

Upon combustion the product may yield smoke, fumes, aldehydes, carbon monoxide, carbon dioxide and other low molecular weight hydrocarbons.

6. ACCIDENTAL RELEASE MEASURES

SAFEGUARDS (PERSONNEL):

Eliminate all sources of ignition - heat, sparks, flame, electricity, impact and friction. Wear appropriate personal protective equipment.

INITIAL CONTAINMENT:

Contain by any means necessary.

LARGE SPILLS PROCEDURE:

Keep unnecessary and unprotected personnel from entering. Prevent spilled product from entering streams or drinking water supply. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product into clean containers for recovery. Absorb unrecoverable product. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.



(section 6 continued)

SMALL SPILLS PROCEDURE:

Absorb liquid with Vermiculite, floor absorbent, or other absorbant material.

7. HANDLING AND STORAGE

HANDLING (PERSONNEL):

Do not breathe gas/fumes/vapor/spray. Use this product with adequate ventilation. Do not get this material in eyes, on skin, or on clothing. Wash thoroughly after handling.

HANDLING (PHYSICAL ASPECTS):

Close container after each use. Keep out of reach of children. Empty containers must not be reused for any purpose. Containers may be hazardous when emptied. Never use cutting torch on empty containers. Ground all equipment when handling flammable solvent borne materials.

STORAGE PRECAUTIONS:

Keep in a cool, well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below PEL and TLV(s).

EYE / FACE PROTECTION REQUIREMENTS:

Use chemical splash goggles and face shield (ANSI Z87-1 or approved equivalent).

SKIN PROTECTION REQUIREMENTS:

When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material.

RESPIRATORY PROTECTION REQUIREMENTS:

When there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.



(section 8 continued)

EXPOSURE GUIDELINES:

TOLUENE

OSHA PEL: 200 ppm
OSHA TWA: 100 ppm
ACGIH TWA: 50 ppm
OSHA STEL: 150 ppm
ACGIH STEL: 150 ppm
OSHA Ceiling Limit: 300 ppm
Skin Designation: Yes

HEXANE

OSHA PEL: 500 ppm
OSHA TWA: 50 ppm
ACGIH TWA: 50 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: Liquid
COLOR: Amber
ODOR: Typical solvent odor
BOILING POINT: 149 - 231 F
VAPOR DENSITY: Heavier than air (Air = 1)
SOLUBILITY IN WATER ...: Insoluble
SPECIFIC GRAVITY: 0.86555 (air=1) (Water = 1)
% VOLATILES: 84.9 %
EVAPORATION RATE: >1 (Butyl Acetate=1)

10. STABILITY AND REACTIVITY

STABILITY:

Stable under normal conditions.

POLYMERIZATION:

Will NOT undergo hazardous polymerization.

INCOMPATIBILITY WITH OTHER MATERIALS:

Avoid contact with strong oxidizing agents, strong acids and bases.
Avoid extreme heat which can result in thermal decomposition releasing toxic gases.

DECOMPOSITION:

Upon decomposition this product may yield smoke, fumes, aldehydes, carbon monoxide, carbon dioxide, and other low molecular weight hydrocarbons.



(section 10 continued)

CONDITIONS TO AVOID:

Heat, sparks, static electricity, pilot lights, open flame, and smoking.

11. TOXICOLOGICAL INFORMATION

No information available.

12. ECOLOGICAL INFORMATION

No information available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements. Residues and spilled material are hazardous waste due to flammability. Law generally requires incineration at an EPA-permitted hazardous waste management facility.

MISCELLANEOUS:

Component waste numbers: RCRA waste number U220.

14. TRANSPORTATION INFORMATION

PRODUCT LABEL: Permaweld TPO Bonding Adhesive
D.O.T. SHIPPING NAME: Adhesive (Contains: Toluene, Hexane, Heptane (n-))
TECHNICAL SHIPPING NAME ...: Flammable Liquid
D.O.T. HAZARD CLASS: 3
UN NUMBER: UN 1133, PG II
PRODUCT RQ (LBS): 5000 lbs

15. REGULATORY INFORMATION

Canadian Disclosure List

TOLUENE (108-88-3)
HEPTANE,N- (142-82-5)
HEXANE (110-54-3)



(section 15 continued)

SARA Title III - Section 313

TOLUENE (108-88-3)

HEXANE (110-54-3)

CERCLA Hazardous Substances

TOLUENE (108-88-3) -- RQ 1000 lb

RCRA Hazardous Substances

TOLUENE (108-88-3) -- RCRA Code: U220

Title V

TOLUENE (108-88-3)

CA Proposition 65

TOLUENE (108-88-3)

SC Toxic Air Pollutants List

TOLUENE (108-88-3)

HEXANE (110-54-3)

16. OTHER INFORMATION

PREPARED BY: Laura Vollenweider
APPROVED BY: Laura Vollenweider
TITLE: Chemist
APPROVAL DATE: April 11, 2006
SUPERCEDES DATE ...: New
MSDS NUMBER: TPOPOOPBA0000P005
RTN NUMBER: 00000133 (Official Copy)

ADDITIONAL INFORMATION:

The data in this Material Safety Data Sheet relates only to the specific material designated herein.

To the best of our knowledge, the information contained in this MDS is accurate. It is intended to assist the user in his evaluation of the products hazards, and safety precautions to be taken in its use. The data in this MSDS relates only to the specific material designated herein. We do not assume liability for the use of, or reliance on this information, nor do we guarantee its accuracy or completeness.

END OF MSDS

