

SECTION 1: PRODUCT IDENTIFICATION

Product Name: Zeston® Adhesive
Generic Name: Adhesive
Chemical Name: Mixture

Manufacturer: Johns Manville
 Insulations Group
Address: P. O. Box 5108
 Denver, CO USA 80217-5108

CAS#: Mixture/None Assigned
Formula: Mixture
Hazard Label: PVC-003
Telephone: 303-978-2000
Emergency: 800-424-9300
Internet Address: <http://www.jm.com>

Trade Names:
 Zeston® Perma-Weld Adhesive (clear & white)

SECTION 2: INGREDIENTS

Ingredient Name	CAS #	%	Exposure Limit(s)
Tetrahydrofuran	109-99-9	45-60	200 ppm TWA (OSHA & ACGIH) 250 ppm STEL (OSHA & ACGIH)
Methyl ethyl ketone	78-93-3	20-30	200 ppm TWA (OSHA & ACGIH) 300 ppm STEL (OSHA & ACGIH)
Vinyl resin	9003-22-9	20-30	Not established
Water	7732-18-5	1-5	Not established
Acetone	67-64-1	1-5	750 ppm TWA (OSHA & ACGIH) 1,000 ppm STEL (OSHA & ACGIH)
Vinyl acetate	108-05-4	1-5	10 ppm TWA (OSHA & ACGIH) 20 ppm STEL (OSHA) 15 ppm STEL (ACGIH)
White adhesive products contain Titanium dioxide (added as a colorant)	13463-67-7	1-5	10 mg/m ³ TWA total dust (OSHA & ACGIH)

SECTION 3: HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE AND ODOR: Clear or white liquids; sweet, ketone odor.

Flammable mixture. Use water spray or fog to cool materials in or near fire. If possible, move burning material outside. Fire is difficult to extinguish. Vapors may travel, and can be ignited by a remote source.

Inhalation of vapors may cause temporary upper respiratory irritation or central nervous system depression-remove affected individuals to fresh air.

Skin contact may be treated by gently washing affected area with soap and warm water.

Eye contact may be treated by flushing eyes with large amounts of water. If irritation persists, contact a physician.

In the event of fire, use normal fire fighting procedures to prevent inhalation of smoke and gases.

Potential Health Effects

Summary:

Vapors from this product may cause eye and upper respiratory irritation, dry throat and mouth, nausea, headache, dizziness, drowsiness, and coma in extreme cases. Prolonged exposures may lead to liver and kidney injury.

Acute (Short-Term) Health Effects:

Vapors from this product may cause irritation of the eyes, and upper respiratory tract including the nose, mouth, and throat. Inhalation of vapors may cause headache, numbness of the fingers and arms, incoordination, weakness, slowed respiration (breathing), and narcosis (drowsiness). Prolonged skin contact may produce irritation, and dermatitis. Eye contact may result in irritation of the eyes, and lacrimation (watering).

Chronic (Long-Term) Health Effects:

Prolonged, excessive exposures to vapors of this product may produce liver and kidney injury.

Target Organs:

Upper respiratory passages, central nervous system, skin, eyes, liver, kidney.

Primary Routes of Entry (Exposure):

Inhalation, skin, and eye contact.

Medical Conditions Which May Be Aggravated:

Pre-existing eye, skin, respiratory, liver and kidney diseases or conditions.

Symptoms Of Overexposure

Inhalation:

Irritation of the upper respiratory tract, headache, nausea, dizziness, weakness, loss of coordination, slow breathing, narcosis (drowsiness), unconsciousness and asphyxiation may occur in extreme exposures.

Skin:

Irritation, dermatitis (skin rash or redness) may occur.

Absorption:

Cyclohexanone can contribute to the overall exposure by skin, mucous membranes, and eyes, either by contact with vapors, or direct contact with the product.

Ingestion:

This product is not intended to be ingested or eaten under normal conditions of use. If ingested, it may cause gastrointestinal (GI) irritation, nausea, vomiting, and diarrhea. Aspiration of this material into the lungs due to vomiting, for example, can cause chemical pneumonitis which can be harmful or fatal.

Eye:

Irritation may occur, with possible watering of the eyes, and blurred vision.

SECTION 4: FIRST AID MEASURES

Inhalation:

Remove to fresh air.

Skin:

Remove contaminated clothing and gently wash exposed areas with soap and warm water. If irritation develops or persists, seek medical attention. Launder contaminated clothing before reuse.

Absorption:

Same as skin contact.

Ingestion:

Product is not intended to be ingested or eaten. If this product is ingested, do not induce vomiting and seek medical attention immediately. Do not make an unconscious person vomit.

Eye:

Flush eyes with large amounts of water for 5-15 minutes. If irritation develops or persists, seek medical attention.

Notes to Physician:

Treatment for inhalation of vapors should be symptomatic with supportive therapy. Skin and eye contact may be treated by washing the exposed area. Removal from exposure will generally result in complete recovery.

SECTION 5: FIRE FIGHTING MEASURES

Summary:

Use water spray or fog to cool materials in or near fire. Material is highly volatile and readily gives off vapors which can over-pressurize containers when exposed to extreme heat. If possible, move burning material outside. Fire is difficult to extinguish. Vapors may travel, and can be ignited by a remote source. Use normal fire-fighting protective equipment to protect from inhalation of smoke and gases.

Unusual Fire/Explosion Hazards:

Containers exposed to elevated temperatures (such as heat or flames) may develop pressure build-up and rupture. Vapors may travel, and can be ignited by a remote source.

Extinguishing Media:

Carbon dioxide (CO₂), foam, dry chemical. Water should be used only to cool materials in or near the fire, but may not be effective in extinguishing the fire.

Flammable Properties and Explosive Limits:

Flash Point: -20°C/-4°F
FP Test Method: TCC
Flame Classification: Not determined
Flame Propagation: Not determined

Lower Explosive Limit (LEL): 2.0%
Upper Explosive Limit (UEL): 12.8%
Autoignition Temperature: Not determined
Decomposition Temperature: Not determined

SECTION 6: ACCIDENTAL SPILL/RELEASE MEASURES

Containment Procedures:

Remove all sources of ignition. Evacuate and ventilate spill area. Dam spill area with sand, earth, or other suitable absorbent. Prevent entry of material into sewers, water sources, or land areas. Wear full protective clothing and respiratory protection during clean-up as required to maintain exposure levels below the applicable exposure limits. Shovel absorbed material into containers in well-ventilated area.

Disposal:

Wastes are hazardous as defined by the Resource Conservation and Recovery Act (RCRA; 40 CFR 261). Dispose of spilled material in accordance with federal, state, and local regulations in a permitted hazardous waste management facility. Incineration is the preferred method of disposal. Empty containers must be handled with care due to product residue. Decontaminate empty containers prior to disposal. Do not heat or cut empty containers with electric or gas torch. If you are unsure of the regulations, contact your local Public Health Department, or the local office of the Environmental Protection Agency (EPA).

SECTION 7: HANDLING AND STORAGE

Storage Handling:

Use protective equipment described in Section 8 of this material safety data sheet when handling uncontained material. Store in a cool, dry area. Store in tightly closed containers to prevent contamination. Keep containers sealed when not in use and clean spills promptly to reduce air concentrations and floor hazards.

Conditions to Avoid:

Keep away from ignition sources, such as heat, sparks, pilot lights, static electricity, and open flames. Containers exposed to elevated temperatures (such as heat or flames) may develop pressure build-up and rupture.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Summary:

Protective equipment should be provided as necessary to prevent irritation to the throat, eyes, and skin, and to keep exposures below the applicable exposure limits identified in Section 2.

Eye:

Safety glasses with sideshields or chemical splash goggles are recommended to prevent splashing of material in eyes.

Skin:

Polyvinyl alcohol gloves should be worn when handling this product to prevent excessive skin contact.

Respiratory:

Use a NIOSH-approved organic vapor respirator to protect against inhalation of vapors. A respirator should be used if ventilation is unavailable, or is inadequate for keeping vapor levels below the applicable exposure limits.

Ventilation:

Local exhaust ventilation should be provided at areas of use to remove gases & vapors from work area. General dilution ventilation should be provided as necessary to keep gases & vapors below the applicable exposure limits and guidelines. The need for ventilation systems should be evaluated by a professional industrial hygienist, while the design of specific ventilation systems should be conducted by a professional engineer.

Other:

Other impervious clothing (apron, boots, etc.) can also help to reduce skin exposure.

Special Considerations for Repair/Maintenance of Contaminated Equipment:

Use personal protective equipment as discussed above.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (°F/°C):	55.5°-79.4°C/133°-175°F
Evaporation Rate (Ether = 1) :	Faster than ether
Melting Point:	Not applicable
pH:	Not determined
Saturation in Air (%):	Not determined
Solids Content:	Not determined
Specific Gravity (Water = 1):	.949-.974
Vapor Density (Air = 1):	>1
Vapor Pressure:	Not determined
Viscosity:	Not determined
VOCs (g/liter):	Not determined
Volatile by Volume (%):	Not determined
Water Solubility (%):	Not soluble

Appearance and Odor:

Clear or white liquids; sweet, ketone odor.

SECTION 10: STABILITY AND REACTIVITY

Product is stable.

Hazardous polymerization will not occur.

Reactivity:

This product is not reactive.

Incompatible Materials:

Oxidizing agents.

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, hydrogen chloride, and other partially oxidized hydrocarbons.

SECTION 11: TOXICOLOGICAL AND EPIDEMIOLOGICAL DATA

This product has not been tested as a separate entity. Therefore, the hazards must be evaluated on the basis of the individual ingredients, and those hazards must be assumed to be additive in the absence of complete information. The hazards described in this document have been evaluated based on a threshold of 1.0% for all hazardous ingredients and 0.1% for all carcinogens.

Acute Effects:

Vapors from this product may cause irritation of the eyes, and upper respiratory tract including the nose, mouth, and throat.

Inhalation of vapors may cause headache, numbness of the fingers and arms, incoordination, weakness, slowed respiration (breathing), and narcosis (drowsiness). Prolonged skin contact may produce irritation, and dermatitis. Eye contact may result in irritation of the eyes, and lacrimation (watering).

Toxicity (LD₅₀):

The LD₅₀ and LC₅₀ (dose or concentration lethal to 50% of a population of test animals) for this product have not been determined.

Chronic Effects:

Prolonged, excessive exposures to vapors of this product may produce liver and kidney injury. Methyl ethyl ketone has shown possible reproductive risks in one animal study; a second study was negative. Individuals exposed to high levels of Tetrahydrofuran have elevated circulating liver enzymes and have complained of nausea, tinnitus, and occipital headache.

References:

Colorado Paint II, material safety data sheet A-300 CL, 4747 Holly St. Denver, CO 80216, 4/7/98.

Colorado Paint II, material safety data sheet A-300 WH, 4747 Holly St. Denver, CO 80216, .

American Conference of Governmental Industrial Hygienists (ACGIH), Tetrahydrofuran - TLV Documentation, 1330 Kemper Meadow Dr. Cincinnati, OH 45240, 1992.

American Conference of Governmental Industrial Hygienists, "Documentation of the Threshold Limit Values, Supplemental Documentation 1984," ACGIH, Cincinnati, OH, 1984.

Clayton, G.D., and F.E. Clayton, eds., "Pattys Industrial Hygiene and Toxicology, Third Revised Edition: Volume 2 - Toxicology," John Wiley and Sons, New York, 1981.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

This product has not been tested.

SECTION 13: DISPOSAL CONSIDERATIONS

Summary:

Wastes are hazardous as defined by the Resource Conservation and Recovery Act (RCRA; 40 CFR 261). Dispose of waste material in accordance with federal, state, and local regulations in a permitted hazardous waste management facility. Incineration is the preferred method of disposal. Empty containers must be handled with care due to product residue. Decontaminate empty containers prior to disposal. Do not heat or cut empty containers with electric or gas torch. If you are unsure of the regulations, contact your local Public Health Department, or the local office of the Environmental Protection Agency (EPA).

SECTION 14: TRANSPORT INFORMATION

US DOT Proper Shipping Name:	Adhesive
Hazard Class and Division:	3
UN/NA Number:	UN1133
Packing Group:	I

SECTION 15: REGULATORY INFORMATION

U. S. REGULATIONS

Federal Regulations:

The Occupational Safety and Health Administration (OSHA), National Toxicology Program (NTP), International Agency for Research on Cancer (IARC), and American Conference of Governmental Industrial Hygienists (ACGIH) have not classified this product as a carcinogen. The following is information on carcinogen classifications of this product's components:

IARC Group 2B Possible Human Carcinogen: vinyl acetate.

IARC Group 3 Not Classifiable as to Carcinogenicity to Humans: titanium dioxide, vinyl resin.

ACGIH A4 Not Classifiable as a Human Carcinogen: acetone, titanium dioxide.

The Permissible Exposure Limits (PELs) reported in this MSDS are from the air contaminants standard OSHA issued in 1989. While an appeals court eventually vacated this standard, it was without authority to reverse state law under which states, operating with their own OSHA programs, had adopted the 1989 standard. Below is a list of states enforcing the 1989 standard. Please also refer to 29 CFR 1910.1000 and to relevant state statutes for other applicable exposure limits.

State Regulations:

States Enforcing 1989 Air Contaminants Standard:

AK, CA, CT, ME, MI, MN, NM, TN, WA, WI.

Component	CAS #	State(s)
Tetrahydrofuran	109-99-9	CA, FL, MA, MN, NJ, PA, RI
Methyl ethyl ketone	78-93-3	CA, FL, MA, MN, NJ, PA, RI
Acetone	67-64-1	CA, FL, MA, MN, NJ, PA
Vinyl acetate monomer	108-05-4	CA, FL, MA, MN, NJ, PA, RI

Environmental Regulations:

Component	CAS #	Percent	SARA 313	SARA 302 TPQ (lbs)	CERCLA	CERCLA RQ (lbs)
Tetrahydrofuran	109-99-9	45-60	No	NA	Yes	1,000
Methyl ethyl ketone	78-93-3	20-30	Yes	NA	Yes	5,000
Acetone	67-64-1	1-5	Yes	NA	Yes	5,000
Vinyl acetate monomer	108-05-4	1-5	Yes	1,000	Yes	5,000

Toxic Substances Control Act Inventory (TSCA 8(b)):

This product and its components are listed.

Other TSCA Requirements:

Tetrahydrofuran (CAS No. 109-99-9) and Acetone (CAS No. 67-64-1) are regulated by the Environmental Protection Agency (EPA) under TSCA Section 4, testing for health effects, and Section 12 (b), notification of export.

INTERNATIONAL REGULATIONS

Canada Workplace Hazardous Materials Information System (WHMIS):

WHMIS disclosure: Tetrahydrofuran, acetone.

Canada Environmental Protection Act Domestic Substance List (Section 25(1) DSL):

This product and its components are listed.

SECTION 16: OTHER INFORMATION

For additional information concerning this product, contact the Johns Manville Product Information Center at PO Box 5108, Denver, CO USA 80217-5108, or call toll-free 800-654-3103 within the US or Canada. Otherwise, call 303-978-4900 collect.

MSDS Revision Summary:

Date	MSDS #	Reason
04/22/98	2008-1.0	Original issue: product moved from 2006-3.6. Updated information from MSDS No. 2006-3.6: Section 2. updated the ingredients via new vendor MSDS; Section 5. changed the flash point, LEL and UEL; Section 8. changed glove material based on vendor MSDS recommendation; Section 9. changed boiling point, specific gravity; volitale per vol. (%); Section 11. added chronic information on tetrahydrofuran and new reference; Section 15. updated IARC & ACGIH information, WHMIS disclosure data and State regulation information.

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— END OF MSDS 2008-1.0 —

