

Section 1 - Product and Company Identification

Hazard Label DANGER label

Company InformationJohns Manville
Insulation Systems
P.O. Box 5108
Denver, CO 80127 USATelephone: 303-978-2000 8:00AM-5:00PM M-F
Internet Address: <http://www.jm.com>
Emergency: 800-424-9300 (Chemtrec, In English)

Trade Names: Ceel-Co® and/or Ceel-Tite® Adhesive, Clear;

Zeston® Perma-Weld Adhesive, Clear

Section 2 - Hazards Identification**Emergency Overview**

DANGER: Extremely flammable liquid and vapor. Vapor may cause flash fire. Use water spray to cool materials in or near a fire. Fire may be difficult to extinguish. Vapors may travel, and can be ignited by a remote source.

HMIS Ratings: Health = 2* Fire = 3 Reactivity = 0

* indicates a chronic effects

Inhalation

Irritation of the upper respiratory tract, coughing, and congestion may occur in extreme exposures. Severe irritation of the mouth, nose, and throat, as well as signs of central nervous system depression (drowsiness, dizziness, headache), may occur upon inhalation of vapors or gases.

Skin

Drying of skin, dermatitis, and blistering may occur following prolonged exposures.

Ingestion

This product is not intended to be ingested under normal conditions of use. May be harmful if swallowed. May cause gastrointestinal irritation and disturbances. May cause effects similar to those for inhalation exposure. Aspiration into the lungs may cause lung inflammation and other lung injury.

Eyes

Irritation, redness, and burning in eyes may occur.

Primary Routes of Entry (Exposure)

Inhalation, skin, and eye contact.

Target Organs

Skin, eye, lungs, central nervous system (CNS), respiratory system, kidney, liver.

Medical Conditions Aggravated by Exposure

Pre-existing eye, skin, respiratory, central nervous system (CNS), liver and kidney diseases or conditions.

Section 3 - Composition/Information on Ingredients

CAS #	Component	Percent
109-99-9	Tetrahydrofuran	45-60
78-93-3	Methyl ethyl ketone	20-30
9003-22-9	Vinyl chloride-Vinyl acetate copolymer	20-30
67-63-0	Isopropyl alcohol	1-5
67-64-1	Acetone	1-5
108-05-4	Vinyl acetate	0.1-5

General Product Description

Clear liquid. Solvent odor.

Section 4 - First Aid Measures**First Aid: Inhalation**

Remove to fresh air. If symptoms persist contact a physician.

First Aid: Skin

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

First Aid: Ingestion

Product is not intended to be ingested or eaten. If this product is ingested, do not induce vomiting and seek medical attention immediately.

First Aid: Eyes

Flush eyes with large amounts of water until irritation subsides. If irritation persists, seek medical attention.

First Aid: Notes to Physician

Treatment for inhalation, skin contact, or ingestion should be symptomatic. Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias.

Section 5 - Fire Fighting Measures

Flash Point: -14.4°C/6°F

Upper Flammable Limit (UFL): Not determined.

Auto Ignition: Not determined

Rate of Burning: Not determined

General Fire Hazards

DANGER: EXTREMELY FLAMMABLE liquid and vapor.

Keep away from heat, sparks, and flame. Material is highly volatile and readily gives off vapors which are heavier than air and 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. Keep container closed. Use with adequate ventilation.

Extinguishing Media

Carbon dioxide (CO₂), water, water fog, dry chemical.

NFPA Ratings: Health = 2 Fire = 3 Reactivity = 1

Fire Fighting Equipment/Instructions

Use NIOSH-approved self-contained breathing apparatus operating in the pressure demand mode and full fire fighting protective clothing. Avoid inhalation of vapors.

Method Used: TCC

Lower Flammable Limit (LFL): 1.9%

Flammability Classification: Not determined

Section 6 - Accidental 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, other water sources, or land areas. Wear full protective clothing and respiratory protection during clean-up as required to maintain exposures below the applicable exposure limit. Shovel absorbed material into containers in well-ventilated area.

Clean-Up Procedures

Place in closable container for disposal.

Section 7 - Handling and Storage

Handling Procedures

Use protective equipment as described in Section 8 of this safety data sheet when handling uncontained material. Handle in accordance with good industrial hygiene and safety practices.

Storage Procedures

Warehouse storage should be in accordance with package directions, if any. Product should be kept in a cool and dry area in original packaging. Do not freeze.

Section 8 - Exposure Controls / Personal Protection

Exposure Guidelines

A: General Product Information

Protective equipment should be provided as necessary to prevent inhalation of vapors, prolonged skin contact, and to keep exposure levels below the applicable exposure limits.

B: Component Exposure Limits**Tetrahydrofuran (109-99-9)**

OSHA: 200 ppm TWA; 590 mg/m3 TWA
200 ppm TWA; 590 mg/m3 TWA
ACGIH: 50 ppm TWA
100 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route

Methyl ethyl ketone (78-93-3)

OSHA: 200 ppm TWA; 590 mg/m3 TWA
200 ppm TWA; 590 mg/m3 TWA
ACGIH: 200 ppm TWA
300 ppm STEL

Isopropyl alcohol (67-63-0)

OSHA: 400 ppm TWA; 980 mg/m3 TWA
400 ppm TWA; 980 mg/m3 TWA
ACGIH: 200 ppm TWA
400 ppm STEL

Acetone (67-64-1)

OSHA: 1000 ppm TWA; 2400 mg/m3 TWA
750 ppm TWA; 1800 mg/m3 TWA
ACGIH: 500 ppm TWA
750 ppm STEL

Vinyl acetate (108-05-4)

OSHA: 10 ppm TWA; 30 mg/m3 TWA
ACGIH: 10 ppm TWA
15 ppm STEL

PERSONAL PROTECTIVE EQUIPMENT**Personal Protective Equipment: Eyes/Face**

Safety glasses with side shields or chemical goggles are recommended.

Personal Protective Equipment: Skin

Impervious gloves such as nitrile rubber should be used to help prevent excessive skin contact.

Personal Protective Equipment: Respiratory

A NIOSH approved respirator must be used if vapor concentrations exceed exposure limits.

Ventilation

Local exhaust or general dilution ventilation may be required to maintain exposures below the applicable exposure limits. 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.

Personal Protective Equipment: General

Protective equipment should be provided as necessary to prevent irritation of the throat, eyes, and skin, and to keep exposures below the applicable exposure limits identified in Section 8.

Section 9 - Physical & Chemical Properties

Appearance:	Clear	Odor:	solvent odor
Physical State:	liquid	pH:	Not determined
Vapor Pressure:	Not determined	Melting Point:	Not determined
Boiling Point:	62.8-68.3°C/145-155°F	Specific Gravity:	0.95
Solubility (H₂O):	Not soluble	Evaporation Rate:	Faster than ether
Freezing Point:	Not determined	Percent Volatile:	79%
Viscosity:	Not determined		
VOC:	726 g/L		

Section 10 - Stability & Reactivity Information**Stability**

These products are not reactive.

Stability: Conditions to Avoid

Keep away from ignition sources. Do not freeze. Do not thin.

Incompatibility

Strong acids, alkalis, and oxidizing agents

Hazardous Decomposition

May form carbon dioxide, carbon monoxide, halogenated hydrocarbons, nitrogen oxides, various hydrocarbons.

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information**Acute Toxicity****A: General Product Information**

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.

B: Component Analysis - LD50/LC50**Tetrahydrofuran (109-99-9)**

Inhalation LC50 Rat: 53.9 mg/L/4H; Inhalation LC50 Rat:180 mg/L/1H; Oral LD50 Rat:1650 mg/kg

Methyl ethyl ketone (78-93-3)

Inhalation LC50 Mouse: 32 g/m³/4H; Oral LD50 Rat:2737 mg/kg; Dermal LD50 Rabbit:6480 mg/kg

Isopropyl alcohol (67-63-0)

Inhalation LC50 Rat: 72.6 mg/L/4H; Oral LD50 Rat:4396 mg/kg; Dermal LD50 Rat:12800 mg/kg; Dermal LD50 Rabbit:12870 mg/kg

Acetone (67-64-1)

Oral LD50 Rat: 5800 mg/kg

Vinyl acetate (108-05-4)

Inhalation LC50 Rat: 11.4 mg/L/4H; Inhalation LC50 Rat:3200 ppm/4H; Oral LD50 Rat:2920 mg/kg; Dermal LD50 Rabbit:2320 mg/kg

Component Carcinogenicity**Tetrahydrofuran (109-99-9)**

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Vinyl chloride-Vinyl acetate copolymer (9003-22-9)

IARC: Group 3 - Not Classifiable (IARC Supplement 7 [1987], Monograph 19 [1979])

Isopropyl alcohol (67-63-0)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Group 3 - Not Classifiable (IARC Monograph 71 [1999], Supplement 7 [1987], Monograph 15 [1977])

Acetone (67-64-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Vinyl acetate (108-05-4)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

IARC: Group 2B - Possibly Carcinogenic to Humans (IARC Monograph 63 [1995], Supplement 7 [1987])

Chronic Toxicity

Tetrahydrofuran: Prolonged, excessive exposures to vapors of tetrahydrofuran may produce liver and kidney injury. Liver and kidney damage has been reported in experimental animals at high exposure levels. These effects may be attributable to peroxide impurities. Recent studies performed in intensely exposed dogs, cats, rats, mice and rabbits do not show evidence of liver or kidney damage. People exposed to high levels of Tetrahydrofuran had elevated circulating liver enzymes and complained of nausea, tinnitus, and occipital headache.

Section 12 - Ecological Information**Ecotoxicity****A: General Product Information**

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity**Tetrahydrofuran (109-99-9)**

96 Hr LC50 Pimephales promelas: 2700-3600 mg/L [static]

24 Hr EC50 Daphnia magna: >10000 mg/L

Methyl ethyl ketone (78-93-3)

96 Hr LC50 Pimephales promelas: 3220 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 1690 mg/L

48 Hr EC50 water flea: 520 mg/L; 48 Hr EC50 Daphnia magna: 5091 mg/L

Isopropyl alcohol (67-63-0)

96 Hr LC50 Pimephales promelas: 9640 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 11130 mg/L [static]

96 Hr EC50 Scenedesmus subspicatus: >1000 mg/L; 72 Hr EC50 Scenedesmus subspicatus: >1000 mg/L

48 Hr EC50 Daphnia magna: 13299 mg/L

Acetone (67-64-1)

96 Hr LC50 Pimephales promelas: 6210-8120 mg/L [static]

48 Hr EC50 water flea: 0.0039 mg/L; 48 Hr EC50 water flea: 12700 mg/L [Static]; 48 Hr EC50 Daphnia magna: 12600 mg/L

Vinyl acetate (108-05-4)

96 Hr LC50 Pimephales promelas: 31.0 mg/L; 96 Hr LC50 Lepomis macrochirus: 31.0 mg/L; 96 Hr LC50 Pimephales

promelas: 14-15 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 18 mg/L [static]

24 Hr EC50 water flea: 52.0 mg/L

Section 13 - Disposal Considerations**US EPA Waste Number & Descriptions****A: General Product Information**

This product is classified an ignitable hazardous waste by the Resource Conservation and Recovery Act (RCRA; 40 CFR 261: Waste # D001). Dispose of spilled material in accordance with federal, state, and local regulations in a hazardous waste facility. Empty containers must be handled with care due to product residue. 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).

B: Component Waste Numbers**Tetrahydrofuran (109-99-9)**

RCRA: waste number U213 (Ignitable waste)

Methyl ethyl ketone (78-93-3)

RCRA: waste number U159 (Ignitable waste, Toxic waste)

200.0 mg/L regulatory level

Acetone (67-64-1)

RCRA: waste number U002 (Ignitable waste)

Disposal Instructions

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Section 14 - Transport Information

International Transport Regulations

DOT: Consumer Commodity, ORM-D

Packaging must not exceed 5 L (1.3 gal) inner; 30 kg (66 lb) outer

IATA & IMDG: Contact JM Product Stewardship for classification and label.

Section 15 - Regulatory Information
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US Federal Regulations**A: General Product Information**

SARA 311 Status. The following SARA 311 designations apply to this product: Immediate (acute) health hazard. Delayed (chronic) health hazard. Fire hazard.

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Tetrahydrofuran (109-99-9)

CERCLA: 1000 lb final RQ; 454 kg final RQ

Methyl ethyl ketone (78-93-3)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Isopropyl alcohol (67-63-0)

SARA 313: 1.0 % de minimis concentration (only if manufactured by the strong acid process, no supplier notification)

Acetone (67-64-1)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Vinyl acetate (108-05-4)

SARA 302: 1000 lb TPQ

SARA 313: 0.1 % de minimis concentration

CERCLA: 5000 lb final RQ; 2270 kg final RQ

State Regulations**A: General Product Information**

Other state regulations may apply. Check individual state requirements.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Tetrahydrofuran	109-99-9	Yes	No	Yes	Yes	Yes	Yes
Methyl ethyl ketone	78-93-3	Yes	No	Yes	Yes	Yes	Yes
Isopropyl alcohol	67-63-0	Yes	No	Yes	Yes	Yes	Yes
Acetone	67-64-1	Yes	No	Yes	Yes	Yes	Yes
Vinyl acetate	108-05-4	Yes	No	Yes	Yes	Yes	Yes

A: TSCA Status

This product and its components are listed on the TSCA 8(b) inventory.

The following components listed in this product are listed on the TSCA Export Notification 12(b) list.

TSCA 12(b)

Component	CAS	TSCA 12 (b)
Tetrahydrofuran	109-99-9	Yes

B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Tetrahydrofuran	109-99-9	Yes	Yes	Yes
Methyl ethyl ketone	78-93-3	Yes	Yes	Yes
Vinyl chloride-Vinyl acetate copolymer	9003-22-9	Yes	Yes	No
Isopropyl alcohol	67-63-0	Yes	Yes	Yes
Acetone	67-64-1	Yes	Yes	Yes
Vinyl acetate	108-05-4	Yes	Yes	Yes

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Tetrahydrofuran	109-99-9	1 %
Methyl ethyl ketone	78-93-3	1 %
Isopropyl alcohol	67-63-0	1 %
Acetone	67-64-1	1 %
Vinyl acetate	108-05-4	1 %

WHMIS Classification

Controlled Product Classification: B2, D2A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations. This SDS contains all the information required by the Controlled Products Regulations.

Section 16 - Other Information**Other Information**

Prepared for:
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The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

Date	MSDS #	Reason
08/01/00	2006-1.0000	New MSDS authoring system.
10/27/00	2006-1.0100	LOLI update, minor. Also transportation update (Sect. 14).
11/17/00	2006-1.0101	Delete "300" from trade names (Section 1.)
06/18/02	2006-1.0102	Sect. 15: Updated TSCA 12B, Tetrahydrofuran no longer listed. Other minor edits.
06/30/03	2006-1.0103	Sect. 1, 2, 6, 9. Minor adjustments to composition. New JM division name (Performance Mtrls.). Changed Ceel-Tite to Ceel-Co Perma-Weld.
01/07/04	2006-1.0104	Sect. 1 added Ceel-Tite to product names and revised material name.
02/10/05	2006-1.0105	Minor edits throughout
12/30/05	2006-1.0106	Section 14 Transportation addition of IATA and IMDG info.
01/15/07	2006-1.0107	Minor edits throughout.
12/03/08	2006-1.0108	Moved white products to SDS 2022. Updated SDS to GHS format.

End of Sheet 2006