

Section 1 - Chemical Product and Company Identification**Product Name** PVC Adhesive Thinner**CAS#** Mixture**Generic Name** Solvent Thinner**Formula** Mixture**Chemical Name:** Mixture**Hazard Label** SOL-XF**Manufacturer Information**

Johns Manville

Performance Materials Division

P.O. Box 5108

Denver, CO 80127 USA

Telephone: 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 Thinner; Zeston® Perma-Weld Adhesive Thinner**Section 2 - Composition / Information on Ingredients**

CAS #	Component	Percent
109-99-9	Tetrahydrofuran	75-96
78-93-3	Methyl ethyl ketone	20-30

Section 3 - Hazards Identification**Emergency Overview**

APPEARANCE AND ODOR: Clear liquid. Strong solvent odor.

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.

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

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

* indicates chronic effects

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.

Inhalation

Excessive inhalation of vapors may cause nasal and respiratory irritation and central nervous system effects including dizziness, weakness, fatigue, nausea, headache, and possible unconsciousness.

Skin

May cause severe irritation, redness, and burns if not removed.

Absorption

Prolonged or repeated contact may cause moderate irritation, defatting, and dermatitis.

Ingestion

May cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis, which can be fatal.

Eyes

May cause severe irritation, redness, tearing, blurred vision, and burns if not removed.

Primary Routes of Entry (Exposure)

Inhalation, skin, and eye contact.

Target Organs

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

Medical Conditions Aggravated by Exposure

Pre-existing eye, skin, or respiratory diseases or conditions.

Section 4 - First Aid Measures

First Aid: Inhalation

Remove to fresh air. If breathing is difficult, administer oxygen and/or artificial respiration and seek medical attention.

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 the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting.

First Aid: Eyes

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

First Aid: 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

Flash Point: -14°C/6°F

Upper Flammable Limit (UFL): 12.8%

Auto Ignition: Not determined

Rate of Burning: Not determined

General Fire 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

Dry chemical, foam, carbon dioxide.

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

Fire Fighting Equipment/Instructions

Firefighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. Firefighters should avoid inhalation of combustion products.

NFPA Ratings: Health = 2 Fire = 3 Reactivity = 1 Specific Hazard = N/A

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

No additional information available.

Section 7 - Handling and Storage

Handling Procedures

Use protective equipment as described in Section 8 of this material safety data sheet when handling uncontained material.

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

Storage Procedures

Material should be kept cool and dry, and protected from moisture. Store in tightly closed containers to prevent contamination.

Section 8 - Exposure Controls / Personal Protection

Exposure Guidelines

A: General Product Information

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

B: Component Exposure Limits

Tetrahydrofuran (109-99-9)

ACGIH: 50 ppm TWA

100 ppm STEL

Skin - potential significant contribution to overall exposure by the cutaneous route

OSHA: 200 ppm TWA; 590 mg/m³ TWA

250 ppm STEL; 735 mg/m³ STEL

Methyl ethyl ketone (78-93-3)

ACGIH: 200 ppm TWA

300 ppm STEL

OSHA: 200 ppm TWA; 590 mg/m³ TWA

300 ppm STEL; 885 mg/m³ STEL

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Chemical goggles or a face shield is recommended.

Personal Protective Equipment: Skin

Nitrile gloves should be used to help prevent excessive skin contact.

Personal Protective Equipment: Respiratory

If vapor levels are above the applicable exposure limits, a NIOSH-approved organic vapor respirator must be provided and worn.

Ventilation

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.

Personal Protective Equipment: General

Protective equipment should be used 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 solvent	Odor: strong solvent odor
Physical State: Liquid	pH: Not determined
Vapor Pressure: Not determined	Vapor Density: >1
Boiling Point: 145-155°F	Melting Point: Not applicable
Solubility (H₂O): Insoluble	Specific Gravity: 0.871
Freezing Point: Not determined	Evaporation Rate: Slower than ether
Percent Volatile: 100%	VOC: 870 g/L

Section 10 - Chemical Stability & Reactivity Information

Chemical Stability

This is a stable material.

Chemical Stability: Conditions to Avoid

Keep away from heat, sparks, or open flame.

Incompatibility

Strong oxidizing agents.

Hazardous Decomposition

Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Hazardous Polymerization

Will not occur.

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

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

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: 2600 mg/kg; Dermal LD50 Rabbit: 6400 mg/kg

Carcinogenicity**A: General Product Information**

No additional information available.

Tetrahydrofuran was associated with an increase in liver cancer in female mice and a slight increase in kidney cancer in male rats. However, in the same study, it had no effect on cancer incidence in male mice or in female rats. The relevance of this finding to humans is uncertain.

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

ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans

Chronic Toxicity

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.

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

No additional information available.

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

96 Hr LC50 Pimephales promelas: 2160 mg/L [flow-through]; 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
5 min EC50 Photobacterium phosphoreum: 3426 mg/L; 30 min EC50 Photobacterium phosphoreum: 3403 mg/L
48 Hr EC50 water flea: 520 mg/L; 48 Hr EC50 Daphnia magna: 5091 mg/L

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

Comply with state and local regulations for disposal. If you are unsure of the regulations, contact your local Public Health Department, or the local office of the 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

Disposal Instructions

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

Section 14 - Transportation Information

International Transportation Regulations**DOT:** Consumer Commodity, ORM-D

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

IATA: UN 1133, Adhesives (tetrahydrofuran, MEK), 3, PGII.

CARGO AIRCRAFT ONLY

FLAMMABLE LIQUID label required

1 qt plastic cans, 6/box only:

Inner packagings must not exceed 10 L (2.6 gal) each (depending on the type of inner packaging used) and the outer package may not exceed 60 L (15.8 gal).

1 gal steel can, 1/box only:

Inner packagings must not exceed 5 L (1.3 gal) each (depending on the type of inner packaging used) and the outer package may not exceed 5 L (1.3 gal).

IMDG: UN 1133, Adhesives (tetrahydrofuran, MEK), 3, PGII

Inner packagings must not exceed 5 L (1.3 gal) and outer packagings must not exceed 30 kg (66 lb).

Section 15 - Regulatory Information

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

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

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

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 %

Section 16 - Other Information**Other Information**

Prepared for:
Johns Manville
Performance Materials
P. O. Box 5108
Denver, CO USA 80217-5108

Prepared by:
Johns Manville Technical Center
P.O. Box 625005
Littleton, CO USA 80162-5005

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	2018-1.0000	New MSDS authoring system.
11/17/00	2018-1.0001	Transportation update (Sect. 14). Trade names: replaced '2000' with 'Perma-Weld' (Sect. 1).
10/14/02	2018-1.0101	Updated Sect. 15 for TSCA 12B: Tetrahydrofuran has been delisted.
07/16/03	2018-1.0102	Combined MSDS 2118 with MSDS 2018. Section 1: Added "Ceel-Co".
01/07/04	2018-1.0103	Sect. 1 added Ceel-Tite to product names and revised material name.
02/10/05	2018-1.0104	Minor edits throughout.
12/30/05	2018-1.0105	Regulatory update. Minor edits to Section 8 Exposure, Section 11 LD50, and Section 15 SARA, CERCLA, WHMIS. Section 14 Transportation addition of IATA and IMDG info.
02/02/06	2018-1.0106	Minor edits to Section 14 Transportation
01/15/07	2018-1.0107	Minor edits throughout.

This is the end of MSDS # 2018