



Material Safety Data Sheet - MSDS

PVC Solvent

Section 1. Chemical Product and Company Identification

Common Name : PVC Solvent **Code** : PV-16, PV-32
Synonym : Not available. **Validation Date** : 2004-10-24.
Trade name : PVC Solvent PV-16, PV-32. **In Case of Emergency** : (714) 739-1408
Manufactured for : L.H. Dottie Company
6131 S. Garfield Avenue
Commerce, California 90040
Tel: (323) 725-1000

Section 2. Composition, Information on Ingredients

| Name | CAS # | % by Weight | Exposure Limits |
|---------------------|----------|-------------|--|
| Methyl Ethyl Ketone | 78-93-3 | 15-30 | ACGIH TLV (United States, 2003). : STEL: 885 mg/m ³ 15 minute(s). Form: All forms STEL: 300 ppm 15 minute(s). Form: All forms TWA: 590 mg/m ³ 8 hour(s). Form: All forms TWA: 200 ppm 8 hour(s). Form: All forms NIOSH REL (United States, 2001). STEL: 885 mg/m ³ 15 minute(s). Form: All forms STEL: 300 ppm 15 minute(s). Form: All forms TWA: 590 mg/m ³ 10 hour(s). Form: All forms TWA: 200 ppm 10 hour(s). Form: All forms OSHA PEL (United States, 1993). TWA: 590 mg/m ³ 8 hour(s). Form: All forms TWA: 200 ppm 8 hour(s). Form: All forms |
| Cyclohexanone | 108-94-1 | 15-30 | ACGIH TLV (United States, 2003). Skin : STEL: 50 ppm 8 hour(s). Form: All forms TWA: 20 ppm 8 hour(s). Form: All forms NIOSH REL (United States, 2001). Skin TWA: 100 mg/m ³ 10 hour(s). Form: All forms TWA: 25 ppm 10 hour(s). Form: All forms OSHA PEL (United States, 1993). TWA: 200 mg/m ³ 8 hour(s). Form: All forms TWA: 50 ppm 8 hour(s). Form: All forms |
| Acetone | 67-64-1 | 7-10 | ACGIH TLV (United States, 2003). STEL: 1782 mg/m ³ 15 minute(s). Form: All forms STEL: 750 ppm 15 minute(s). Form: All forms TWA: 1188 mg/m ³ 8 hour(s). Form: All forms TWA: 500 ppm 8 hour(s). Form: All forms NIOSH REL (United States, 2001). TWA: 590 mg/m ³ 10 hour(s). Form: All forms TWA: 250 ppm 10 hour(s). Form: All forms OSHA PEL (United States, 1993). TWA: 2400 mg/m ³ 8 hour(s). Form: All forms TWA: 1000 ppm 8 hour(s). Form: All forms. |
| Tetrahydrofuran | 109-99-9 | 7-10 | ACGIH TLV (United States, 2003). STEL: 737 mg/m ³ 15 minute(s). Form: All forms STEL: 250 ppm 15 minute(s). Form: All forms TWA: 590 mg/m ³ 8 hour(s). Form: All forms TWA: 200 ppm 8 hour(s). Form: All forms NIOSH REL (United States, 2001). STEL: 735 mg/m ³ 15 minute(s). Form: All forms STEL: 250 ppm 15 minute(s). Form: All forms TWA: 590 mg/m ³ 10 hour(s). Form: All forms TWA: 200 ppm 10 hour(s). Form: All forms OSHA PEL (United States, 1993). TWA: 590 mg/m ³ 8 hour(s). Form: All forms TWA: 200 ppm 8 hour(s). Form: All forms |

This material is classified as hazardous under OSHA regulations.

See Section 8 for Exposure Limits.

See Section 11 for Toxicological Data.

Section 3. Hazards Identification

| | |
|--|---|
| Physical State and Appearance | : Liquid. (Sirupy) |
| Emergency Overview | : DANGER! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. SUSPECT CANCER HAZARD CONTAINS MATERIAL WHICH MAY CAUSE CANCER CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, LUNGS, LIVER, MUCOUS MEMBRANES, PERIPHERAL NERVOUS SYSTEM, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA. MAY BE HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. Risk of cancer depends on duration and level of exposure. Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. |
| Routes of Entry | : Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion. |
| Potential Acute Health Effects | |
| Eyes | : Hazardous in case of eye contact (irritant). |
| Skin | : Hazardous in case of skin contact (irritant). Non-sensitizer for skin. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. |
| Inhalation | : Hazardous in case of inhalation (lung irritant). |
| Ingestion | : Hazardous in case of ingestion. |
| Potential Chronic Health Effects | : CARCINOGENIC EFFECTS: Classified None. by NIOSH [Cyclohexanone]. Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Cyclohexanone]. Classified A4 (Not classifiable for human or animal.) by ACGIH [Acetone]. Classified 2 (Reasonably Anticipated to be human carcinogens.) by NTP [Tetrahydrofuran]. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. |
| Medical Conditions Aggravated by Overexposure: | : Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. |
| Over-exposure signs/symptoms | : Not available. |
| See Section 11 for Toxicological Data. | |

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. Cold water may be used. Get medical attention. |
| Skin Contact | : In case of contact, immediately flush skin with plenty of water. Get medical attention. |
| Inhalation | : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| Ingestion | : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. |
| Notes to Physician | : No specific antidote. Medical staff must contact Poison Information Center. |

Section 5. Fire Fighting Measures

- Flammability of the Product** : Flammable.
- Auto-ignition Temperature** : The lowest known value is 320.9°C (609.6°F) (Tetrahydrofuran).
- Flash Points** : Closed cup: -20°C (-4°F). (Tagliabue.)
- Flammable Limits** : LOWER: 2% UPPER: 11.8%
- Products of Combustion** : These products are carbon oxides (CO, CO₂).
- Fire Hazards in Presence of Various Substances** : Highly flammable in presence of open flames, sparks and static discharge.
Flammable in presence of heat.
Slightly flammable to flammable in presence of shocks.
- 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.
- Fire Fighting Media and Instructions** : SMALL FIRE: Use dry chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.
- Protective Clothing (Fire)** : Be sure to use an approved/certified respirator or equivalent.
- Special Remarks on Fire Hazards** : Not available.

Section 6. Accidental Release Measures

- Small Spill and Leak** : Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
- Large Spill and Leak** : Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with dry earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed.

Section 7. Handling and Storage

- Handling** : Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.
- Storage** : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Store between 5 to 43.7°C (41 to 110.7°F).

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 occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection

- Eyes** : Splash goggles.
- Body** : Lab coat.
- Respiratory** : Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- Hands** : Gloves.
- Feet** : Not applicable.

Protective Clothing (Pictograms)



- Personal Protection in Case of a Large Spill** : Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.

Exposure Limits Product Name

Exposure Limits

Methyl Ethyl Ketone

ACGIH TLV (United States, 2003). :STEL: 885 mg/m³ 15 minute(s). Form: All forms

STEL: 300 ppm 15 minute(s). Form: All forms

TWA: 590 mg/m³ 8 hour(s). Form: All forms

TWA: 200 ppm 8 hour(s). Form: All forms

NIOSH REL (United States, 2001).STEL: 885 mg/m³ 15 minute(s). Form: All forms

STEL: 300 ppm 15 minute(s). Form: All forms

TWA: 590 mg/m³ 10 hour(s). Form: All forms

TWA: 200 ppm 10 hour(s). Form: All forms

OSHA PEL (United States, 1993).TWA: 590 mg/m³ 8 hour(s). Form: All forms

TWA: 200 ppm 8 hour(s). Form: All forms

Cyclohexanone

ACGIH TLV (United States, 2003). Skin :

STEL: 50 ppm 8 hour(s). Form: All forms

TWA: 20 ppm 8 hour(s). Form: All forms

NIOSH REL (United States, 2001). SkinTWA: 100 mg/m³ 10 hour(s). Form: All forms

TWA: 25 ppm 10 hour(s). Form: All forms

OSHA PEL (United States, 1993).TWA: 200 mg/m³ 8 hour(s). Form: All forms

TWA: 50 ppm 8 hour(s). Form: All forms

Acetone

ACGIH TLV (United States, 2003).STEL: 1782 mg/m³ 15 minute(s). Form: All forms

STEL: 750 ppm 15 minute(s). Form: All forms

TWA: 1188 mg/m³ 8 hour(s). Form: All forms

TWA: 500 ppm 8 hour(s). Form: All forms

NIOSH REL (United States, 2001).TWA: 590 mg/m³ 10 hour(s). Form: All forms

TWA: 250 ppm 10 hour(s). Form: All forms

OSHA PEL (United States, 1993).TWA: 2400 mg/m³ 8 hour(s). Form: All forms

TWA: 1000 ppm 8 hour(s). Form: All forms

Tetrahydrofuran

ACGIH TLV (United States, 2003).STEL: 737 mg/m³ 15 minute(s). Form: All forms

STEL: 250 ppm 15 minute(s). Form: All forms

TWA: 590 mg/m³ 8 hour(s). Form: All forms

TWA: 200 ppm 8 hour(s). Form: All forms

NIOSH REL (United States, 2001).STEL: 735 mg/m³ 15 minute(s). Form: All forms

STEL: 250 ppm 15 minute(s). Form: All forms

TWA: 590 mg/m³ 10 hour(s). Form: All forms

TWA: 200 ppm 10 hour(s). Form: All forms

OSHA PEL (United States, 1993).TWA: 590 mg/m³ 8 hour(s). Form: All forms

TWA: 200 ppm 8 hour(s). Form: All forms

[Consult local authorities for acceptable exposure limits.](#)**Section 9. Physical and Chemical Properties**

| | |
|--------------------------------------|---|
| Physical State and Appearance | : Liquid. (Sirupy) |
| Color | : Gray. |
| Odor | : Ethereal. |
| Molecular Weight | : Not applicable. |
| Molecular Formula | : Not applicable. |
| pH (1% Soln/Water) | : Not available. |
| Boiling/Condensation Point | : 67°C (152.6°F) |
| Melting/Freezing Point | : May start to solidify at -47.17°C (-52.9°F) based on data for: Cyclohexanone. Weighted average: -77.14°C (-106.9°F) |
| Specific Gravity | : 0.91 (Water = 1) |
| Vapor Pressure | : 19.1 kPa (143 mm Hg) (at 20°C) |
| Vapor Density | : 2.49 (Air = 1) |

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| | |
|--------------------------|---|
| Volatility | : 85 to 95% (v/v). |
| Odor Threshold | : The lowest known value is 2 ppm (Butanone) |
| Evaporation Rate | : >1 compared to Butyl acetate. |
| VOC | : 90 (%) |
| Viscosity | : Not available. |
| LogK_{ow} | : Not available. |
| Solubility | : Easily soluble in cold water, hot water, acetone. |

Section 10. Stability and Reactivity

| | |
|--|---|
| Stability and Reactivity | : The product is stable. |
| Conditions of Instability | : Not available. |
| Incompatibility with Various Substances | : Reactive with oxidizing agents, acids. Slightly reactive with alkalis. |
| Hazardous Decomposition Products | : Not available. |
| Hazardous Polymerization | : Will not occur. |

Section 11. Toxicological Information

Toxicity Data

| <u>Ingredient Name</u> | <u>Test</u> | <u>Result</u> | <u>Route</u> | <u>Species</u> |
|------------------------|-------------|---------------|--------------|----------------|
| Methyl Ethyl Ketone | LD50 | 2737 mg/kg | Oral | Rat |
| | LD50 | 4050 mg/kg | Oral | Mouse |
| | LD50 | 6480 mg/kg | Dermal | Rabbit |
| Cyclohexanone | LD50 | 1400 mg/kg | Oral | Mouse |
| | LDLo | 1600 mg/kg | Oral | Rabbit |
| Acetone | LD50 | 5800 mg/kg | Oral | Rat |
| | LD50 | 5340 mg/kg | Oral | Rabbit |
| Tetrahydrofuran | LD50 | 1650 mg/kg | Oral | Rat |
| | LD50 | 2300 mg/kg | Oral | Guinea pig |

Chronic Effects on Humans : **CARCINOGENIC EFFECTS**: Classified None. by NIOSH [Cyclohexanone]. Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Cyclohexanone]. Classified A4 (Not classifiable for human or animal.) by ACGIH [Acetone]. Classified 2 (Reasonably Anticipated to be human carcinogens.) by NTP [Tetrahydrofuran].

Contains material which causes damage to the following organs: kidneys, lungs, liver, mucous membranes, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Other Toxic Effects on Humans : Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation (lung irritant).
Non-sensitizer for skin.

Special Remarks on Toxicity to Animals : Not available.

Special Remarks on Chronic Effects on Humans : Not available.

Special Remarks on Other Toxic Effects on Humans : Not available.

Section 12. Ecological Information

Ecotoxicity Data

| <u>Ingredient Name</u> | <u>Species</u> | <u>Period</u> | <u>Result</u> |
|------------------------|----------------------------|---------------|---------------|
| Methyl Ethyl Ketone | Daphnia magna (EC50) | 48 hour(s) | 5091 mg/l |
| | Pimephales promelas (LC50) | 96 hour(s) | 3220 mg/l |
| Cyclohexanone | Pimephales promelas (LC50) | 96 hour(s) | 527 mg/l |
| | Pimephales promelas (LC50) | 96 hour(s) | 630 mg/l |
| | Pimephales promelas (LC50) | 96 hour(s) | 732 mg/l |
| | Pimephales promelas (LC50) | 96 hour(s) | 732 mg/l |
| Acetone | Daphnia magna (EC50) | 48 hour(s) | 23.5 mg/l |
| | Pimephales promelas (EC50) | 48 hour(s) | 8990 mg/l |
| | Daphnia magna (EC50) | 48 hour(s) | 13500 mg/l |
| | Pimephales promelas (LC50) | 96 hour(s) | >100 mg/l |
| | Daphnia magna (LC50) | 96 hour(s) | >100 mg/l |
| | Oncorhynchus mykiss (LC50) | 96 hour(s) | 5540 mg/l |

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Tetrahydrofuran Pimephales promelas (LC50) 96 hour(s) 2160 mg/l




- BOD and COD** : Not available.
Biodegradable/OECD : Not available.
Mobility : Not available.
Products of Degradation : These products are carbon oxides (CO, CO₂) and water.
Toxicity of the Products of Biodegradation : The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation : Not available.

Section 13. Disposal Considerations

- Waste Information** : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Consult your local or regional authorities.

Section 14. Transport Information

| Regulatory Information | UN number | Proper shipping name | Class | Packing Group | Label | Additional information |
|------------------------|-----------|----------------------|-------|---------------|---|------------------------|
| United States (DOT) | UN1133 | Adhesive. | 3 | II |  | - |
| IMDG Code | UN1133 | Adhesive. | 3 | II |  | - |
| IATA-DGR Class | UN1133 | Adhesive. | 3 | II |  | - |

NAERG : 128

Section 15. Regulatory Information

- HCS Classification** : Contains material which may cause cancer
 Flammable liquid
 Irritating material
 Target organ effects
- U.S. Federal Regulations** : TSCA 8(b) inventory: All components listed.
 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: Butanone; Cyclohexanone; Acetone; Tetrahydrofuran
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Butanone: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; Cyclohexanone: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; Acetone: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; Tetrahydrofuran: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
 Clean Water Act (CWA) 307: No products were found.
 Clean Water Act (CWA) 311: No products were found.
 Clean air act (CAA) 112 accidental release prevention: No products were found.
 Clean air act (CAA) 112 regulated flammable substances: No products were found.
 Clean air act (CAA) 112 regulated toxic substances: No products were found.

SARA 313

Form R - Reporting Requirements : Butanone

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Supplier Notification : Butanone

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State Regulations : Pennsylvania RTK: Butanone: (environmental hazard, generic environmental hazard); Cyclohexanone: (environmental hazard, generic environmental hazard); Acetone: (environmental hazard, generic environmental hazard); Tetrahydrofuran: (environmental hazard, generic environmental hazard)
 Massachusetts RTK: Butanone; Cyclohexanone; Acetone; Tetrahydrofuran
 New Jersey: Butanone; Cyclohexanone; Acetone; Tetrahydrofuran
 California prop. 65: No products were found.

Section 16. Other Information

Label Requirements : EXTREMELY FLAMMABLE LIQUID AND VAPOR.
 VAPOR MAY CAUSE FLASH FIRE.
 SUSPECT CANCER HAZARD
 CONTAINS MATERIAL WHICH MAY CAUSE CANCER
 CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, LUNGS, LIVER, MUCOUS MEMBRANES, PERIPHERAL NERVOUS SYSTEM, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.
 MAY BE HARMFUL IF INHALED OR SWALLOWED.
 MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

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 : - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. ANSI Z400.1, MSDS Standard, 2001. -Manufacturer's Material Safety Data Sheet.

Responsible Name : Kemika XXI Inc. +1-450-435-7475
Date of printing : 2004-10-28.
Date of issue : 2004-10-24.
Date of Previous Issue : No Previous Validation.
Version : 1

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.