



# Standard Guide for Labeling Chlorinated Hydrocarbon Solvent Containers<sup>1</sup>

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## 1. Scope

1.1 This guide is intended to provide industrial health and safety labeling for the following chlorinated hydrocarbon solvents: methylene chloride, perchloroethylene, and trichloroethylene. Additional labeling may be required if other chemicals are mixed with these solvents, or if special containers (for example, aerosol packages) are employed.

## 2. Referenced Documents

### 2.1 *ASTM Standards:*

D 4276 Practice for Confined Area Entry<sup>2</sup>

### 2.2 *ANSI Standard:*

ANSI Z 129.1-2000 American National Standard for Hazardous Industrial Chemicals-Precautionary Labeling<sup>3</sup>

### 2.3 *Code of Federal Regulations:*

29 CFR 1910.146 OSHA Occupational Safety and Health Standard for Permit-required Confined Spaces<sup>4</sup>

29 CFR 1910.1052 OSHA Occupational Health Standard for Methylene Chloride<sup>4</sup>

29 CFR 1910.1200 OSHA Hazard Communication Standard<sup>4</sup>

49 CFR 172 DOT Hazardous Materials Regulations<sup>4</sup>

16 CFR 1500 Consumer Product Safety Commission Regulations<sup>4</sup>

### 2.4 *Other Publications:*

ACGIH Threshold Limit Values (TLVs) for Chemical Substances and Physical Agents<sup>5</sup>

## 3. Significance and Use

3.1 Chemical product labeling is required by the OSHA Hazard Communications Standard 29 CFR 1910.1200. ANSI Standard Z129.1 establishes specific guidelines for preparation of labeling consistent with the OSHA Standard. This guide is

intended as an interpretation of these standards as they apply to these specific products and grades.

3.2 This guide is intended to provide suggestions for the minimum required labeling for these chlorinated solvents. It is not intended to replace labeling determinations made by manufacturers or packagers.

3.3 This guide applies to commercially available grades of these specific products. For solvent blends, or formulations with other materials, consult ANSI Z129.1.

## 4. Requirements

4.1 These materials may also be subject to applicable federal, state and local laws and regulations.

## 5. Labeling

5.1 Sections 6-8 describe typical warning statements to be included in warning labels for the appropriate solvents.

5.2 Special grades of these solvents are available. These suggested statements may not be complete, or appropriate in every case. Solvent suppliers should be consulted before labeling containers of these products.

5.3 Some states require identification of any components present in concentrations of 1 % or greater, or of listed carcinogens in concentrations of 0.1 % or greater. Certain grades of these products may contain stabilizers in such concentrations. Consult the supplier for more information.

5.4 Some regulatory districts also require listing of VOC content. Methylene chloride and perchloroethylene are exempt in many jurisdictions, however stabilizers (where present) are considered as VOCs, and may need to be labeled as such.

5.5 Products packaged for consumer uses may require labeling that differs from the recommendations set forth in this guide. Consult Consumer Product Safety Commission regulations (16 CFR Part 1500)

## 6. Suggested Label for Methylene Chloride

### 6.1 *Identification:*

Company Name

Company Address

Emergency Telephone Number

Company Logo

Lot Number

Net Weight

Solvent Name: Methylene Chloride (dichloromethane)

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee D26 on Halogenated Organic Solvents and Fire Extinguishing Agents and is the direct responsibility of Subcommittee D26.05 on Industrial Hygiene.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 15.05.

<sup>3</sup> Available from American National Standards Institute, 25 West 43rd Street, 4th Floor, New York, NY 10036.

<sup>4</sup> Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

<sup>5</sup> Available from American Conference of Governmental Industrial Hygienists, 1330 Kemper Meadow Dr., Cincinnati, OH 45240.

CAS No.: 75-09-2  
UN No.: UN 1593  
DOT Label: Poison  
OSHA PEL: 25 ppm (ACGIH TLV: 50 ppm)  
Reportable Quantity: 1000 lb

**6.2 READ MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR USING THIS PRODUCT.**

*6.3 Health and Safety Information:*

**WARNING!** Harmful if inhaled. May cause skin and eye irritation. May cause liver and kidney damage based on animal data. Possible cancer hazard. May cause cancer based on animal data.

*6.4 Precautions:*

**AVOID BREATHING OF VAPOR OR MIST.** Exposure to high vapor concentrations can cause unconsciousness and death.

**USE ONLY WITH ADEQUATE VENTILATION.** Ventilation must be sufficient to limit exposures in accordance with OSHA Occupational Health Standard for methylene chloride. Eye irritation and dizziness are indications of overexposure.

**DO NOT TASTE OR SWALLOW.** Swallowing can cause injury, illness, and death.

**AVOID CONTACT WITH SKIN AND CLOTHING.** Prolonged or repeated contact with liquid can cause skin irritation and dermatitis.

**DO NOT GET IN EYES.** Contact will cause discomfort and irritation.

**WASH THOROUGHLY AFTER HANDLING.**

**DO NOT EAT, DRINK, OR SMOKE IN WORK AREAS.**

**SEE CURRENT OSHA REGULATIONS.**

*6.5 First Aid:*

**IF INHALED**—Remove patient to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**IF SWALLOWED**—Do not induce vomiting. Contact physician or emergency medical facility immediately. Never give anything by mouth to an unconscious person.

**IF IN EYES**—Immediately flush eyes thoroughly with large amounts of water for at least 15 min. Call a physician.

**IF ON SKIN**—Remove contaminated clothing and shoes. Wash skin with warm water and soap. Wash clothes and air out shoes before reuse.

**NOTE TO PHYSICIAN**—Avoid use of adrenalin (or other heart-stimulating drugs) in any case where a person has been overcome by methylene chloride. Increased sensitivity of the heart can be caused by overexposure to methylene chloride.

*6.6 Handling and Storage:*

**DO NOT USE IN POORLY VENTILATED OR CONFINED SPACES.** Vapors are heavier than air and will collect in low areas such as pits, degreasers, storage tanks, and other confined areas. Do not enter where vapors are suspected in high concentrations unless air-supplied positive pressure breathing apparatus is used and a trained observer is present and equipped with rescue gear. See Practice D 4276 and 29 CFR 1910.146.

Avoid prolonged contact with aluminum. Do not use in aluminum equipment or containers. Contact of methylene chloride with aluminum parts in a pressurizable fluid system can cause violent reaction. Consult the equipment supplier for further information.

Avoid contact of this material or its vapors with flames, hot glowing surfaces, welding operations or electric arcs. Such contact can form toxic and corrosive acid fumes.

Liquid oxygen or other strong oxidants can form explosive mixtures with methylene chloride.

Vapors of methylene chloride in confined or poorly ventilated areas can form flammable mixtures in the air.

Store methylene chloride in a cool, dry, well-ventilated area out of sunlight. Open slowly to relieve pressure. Do not store in open, unlabeled or mislabeled containers. Keep containers tightly closed when not in use.

Do not reuse drum without recycling or reconditioning in accordance with any applicable federal, state or local laws.

Do not use cutting or welding torches, open flames, or electric arcs on empty or full containers (including storage tanks) that may contain methylene chloride liquid or vapors.

**SPILLS OR LEAKS**—Evacuate the area, ventilate, and avoid breathing vapors. Dike the area to contain the spill. Personnel wearing proper protective equipment including an air line respirator or a self-contained breathing apparatus with a full facepiece, should clean up the area by mopping with absorbent material, and should place the contaminant in closed containers for disposal. Avoid contamination of ground and water.

**DISPOSAL**—Send to a permitted waste management facility. Any disposal must be in compliance with federal, state and local regulations. Do not flush to the sewer, on the ground, or into any body of water.

**KEEP OUT OF REACH OF CHILDREN.**

**7. Suggested Label for Perchloroethylene**

*7.1 Identification:*

Company Name  
Company Address  
Emergency Telephone Number  
Company Logo  
Lot Number  
Net Weight  
Solvent Name: Perchloroethylene (tetrachloroethylene)  
CAS No.: 127-18-4  
UN No.: UN 1897  
DOT Label: Poison  
OSHA PEL: 100 ppm (ACGIH TLV: 25 ppm)  
Reportable Quantity: 100 lb

**7.2 READ MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR USING THIS PRODUCT.**

*7.3 Health and Safety Information:*

**WARNING!** Harmful if inhaled. May cause skin and eye irritation. May cause liver and kidney damage based on animal data. Possible cancer hazard. May cause cancer based on animal data.

*7.4 Precautions:*

**AVOID BREATHING OF VAPOR OR MIST.** Exposure to high vapor concentrations can cause unconsciousness and death.

**USE ONLY WITH ADEQUATE VENTILATION.** Ventilation must be sufficient to limit exposure below permissible exposure limits. Eye irritation and dizziness are indications of overexposure.

**DO NOT TASTE OR SWALLOW.** Swallowing can cause injury, illness, and death.

**AVOID CONTACT WITH SKIN AND CLOTHING.** Prolonged or repeated contact with liquid can cause skin irritation and dermatitis.

**DO NOT GET IN EYES.** Contact will cause discomfort and irritation.

**WASH THOROUGHLY AFTER HANDLING.**

**DO NOT EAT, DRINK, OR SMOKE IN WORK AREAS.**

**SEE CURRENT OSHA REGULATIONS.**

*7.5 First Aid:*

**IF INHALED**—Remove patient to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**IF SWALLOWED**—Do not induce vomiting. Contact physician or emergency medical facility immediately. Never give anything by mouth to an unconscious person.

**IF IN EYES**—Immediately flush eyes thoroughly with large amounts of water for at least 15 min. Call a physician.

**IF ON SKIN**—Remove contaminated clothing and shoes. Wash skin with warm water and soap. Wash clothes and air out shoes before reuse.

**NOTE TO PHYSICIAN**—Avoid use of adrenalin (or other heart-stimulating drugs) in any case where a person has been overcome by perchloroethylene. Increased sensitivity of the heart can be caused by overexposure to perchloroethylene.

*7.6 Handling and Storage:*

**DO NOT USE IN POORLY VENTILATED OR CONFINED SPACES.** Vapors are heavier than air and will collect in low areas such as pits, degreasers, storage tanks, and other confined areas. Do not enter where vapors are suspected in high concentrations unless air-supplied positive pressure breathing apparatus is used and a trained observer is present and equipped with rescue gear. See Practice D 4276 and 29 CFR 1910.146.

Avoid contact of this material or its vapors with flames, hot glowing surfaces, welding operations or electric arcs. Such contact can form toxic and corrosive acid fumes.

Liquid oxygen or other strong oxidants can form explosive mixtures of perchloroethylene.

Store perchloroethylene in a cool, dry, well-ventilated area out of sunlight. Do not store in open, unlabeled or mislabeled containers. Keep containers tightly closed when not in use.

Do not reuse drum without recycling or reconditioning in accordance with any applicable federal, state or local laws.

Do not use cutting or welding torches, open flames, or electric arcs on empty or full containers (including storage tanks) that may contain perchloroethylene liquid or vapors.

**SPILLS OR LEAKS**—Evacuate the area, ventilate, and avoid breathing vapors. Dike the area to contain the spill. Personnel wearing proper protective equipment including an air line respirator or self-contained breathing apparatus, with a full facepiece, should clean up the area by mopping with absorbent material, and should place the contaminant in closed containers for disposal. Avoid contamination of ground and surface water.

**DISPOSAL**—Send to a permitted waste management facility. Any disposal must be in compliance with federal, state and local regulations. Do not flush to the sewer, on the ground, or into any body of water.

**KEEP OUT OF REACH OF CHILDREN.**

## 8. Suggested Label for Trichloroethylene

*8.1 Identification:*

Company Name

Company Address

Emergency Telephone Number

Company Logo

Lot Number

Net Weight

Solvent Name: Trichloroethylene

CAS No.: 79-01-6

DOT Label: Poison

UN No.: UN 1710

OSHA PEL: 100 ppm (ACGIH TLV: 50 ppm)

### 8.2 READ MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR USING THIS PRODUCT.

*8.3 Health and Safety Information:*

**WARNING!** Harmful if inhaled. May cause skin and eye irritation. May cause liver and kidney damage based on animal data. Possible cancer hazard. May cause cancer based on animal data.

*8.4 Precautions:*

**AVOID BREATHING OF VAPOR OR MIST.** Exposure to high vapor concentrations can cause unconsciousness and death.

**USE ONLY WITH ADEQUATE VENTILATION.** Ventilation must be sufficient to limit exposure below permissible exposure limits. Eye irritation and dizziness are indications of overexposure.

**DO NOT TASTE OR SWALLOW.** Swallowing can cause injury, illness, and death.

**AVOID CONTACT WITH SKIN AND CLOTHING.** Prolonged or repeated contact with liquid can cause skin irritation and dermatitis.

**DO NOT GET IN EYES.** Contact will cause discomfort and irritation.

**WASH THOROUGHLY AFTER HANDLING.**

**DO NOT EAT, DRINK, OR SMOKE IN WORK AREAS.**

**SEE CURRENT OSHA REGULATIONS.**

*8.5 First Aid:*

**IF INHALED**—Remove patient to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**IF SWALLOWED**—Do not induce vomiting. Contact physician or emergency medical facility immediately. Never give anything by mouth to an unconscious person.

**IF IN EYES**—Immediately flush eyes thoroughly with large amounts of water for at least 15 min. Call a physician.

**IF ON SKIN**—Remove contaminated clothing and shoes. Wash skin with warm water and soap. Wash clothes and air out shoes before reuse.

**NOTE TO PHYSICIAN**—Avoid use of adrenalin (or other heart-stimulating drugs) in any case where a person has been overcome by trichloroethylene. Increased sensitivity of the heart can be caused by overexposure to trichloroethylene.

#### 8.6 Handling and Storage:

**DO NOT USE IN POORLY VENTILATED OR CONFINED SPACES.** Vapors are heavier than air and will collect in low areas such as pits, degreasers, storage tanks, and other confined areas. Do not enter where vapors are suspected in high concentrations unless air-supplied positive pressure breathing apparatus is used and a trained observer is present and equipped with rescue gear. See Practice D 4276 and 29 CFR 1910.146.

Avoid prolonged contact with aluminum. Do not use in aluminum equipment or containers.

Avoid contact of this material or its vapors with flames, hot glowing surfaces, welding operations or electric arcs. Such contact can form toxic and corrosive acid fumes.

Liquid oxygen or other strong oxidants can form explosive mixtures with trichloroethylene.

Vapors of trichloroethylene in confined or poorly ventilated areas can form flammable mixtures in air.

Store trichloroethylene in a cool, dry, well-ventilated area out of sunlight. Do not store in open, unlabeled or mislabeled containers. Keep containers tightly closed when not in use.

Do not reuse drum without recycling or reconditioning in accordance with any applicable federal, state or local laws.

Do not use cutting or welding torches, open flames, or electric arcs on empty or full containers (including storage tanks) that may contain trichloroethylene liquid or vapors.

**SPILLS OR LEAKS**—Evacuate the area, ventilate, and avoid breathing vapors. Dike the area to contain the spill. Personnel wearing proper protective equipment including an air line respirator or a self-contained breathing apparatus with a full facepiece, should clean up the area by mopping with absorbent material, and should place the contaminant in closed containers for disposal. Avoid contamination of ground and water.

**DISPOSAL**—Send to a permitted waste management facility. Any disposal must be in compliance with federal, state and local regulations. Do not flush to the sewer, on the ground, or into any body of water.

**KEEP OUT OF REACH OF CHILDREN.**

## 9. Keywords

9.1 dichloromethane; labeling; methylene chloride; perchloroethylene; trichloroethylene

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