

# MATERIAL SAFETY DATA SHEET

**No.U-0970E-04**

Identity (As Used on Label and List)

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## TRICHLOROETHYLENE

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### Section 1

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**Manufacturer's Name**

ASAHI GLASS Co., Ltd.

**Emergency Telephone Number**

03-3218-5700

**Address**

12-1 Yurakucho 1-Chome  
Chiyoda-ku, Tokyo 100-8405, JAPAN  
Chemicals General Division  
Chlor-Alkali Division

**Telephone Number for Information**

03-3218-5700

**Facsimile Number for Information**

03-3218-7845

- **Date Prepared:** January 6, 1993
  - **Date Revised:** October 11, 2000
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### Section II- Hazardous Ingredients/Identity Information

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## Hazardous Components

**Material:** Trichloroethylene

**CAS No.:** 79-01-6

**OSHA (1993) PEL-TWA:** 100ppm; (Acceptable Ceiling Concentration); 200ppm; (5mins in any 2h); 300ppm

**ACGIH (1997) TLV-TWA:** 50ppm, A5; STEL, 100ppm

**%:** >99.9

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### Section III- Physical/Chemical Characteristics

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**Boiling Point:** 87.2 deg.C

**Specific Gravity (H<sub>2</sub>O = 1):** 1.465

**Vapor Pressure:** 0.013MPa (0 deg.C)

**Melting Point:** -86.2 deg.C

**Vapor Density (Air = 1):** 4.54

**Evaporation Rate (Ethyl ether = 1):** 0.28

**Solubility in Water:** 0.11 g/100ml water (20deg.C)

**Appearance and Odor:** Clear, colorless liquid with mild, ethereal odor.

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### Section IV- Fire and Explosion Hazard Data

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**Flash Point (Method Used):** No flash obtained when tested in usual manner.

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**Flammable Limits LEL:** 8.0 vol% UEL; 10.5 vol%

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#### Extinguishing Media

No applicable. Use media appropriate for surrounding fire and/or materials.

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#### Special Fire Fighting Procedures

Fire fighters should use pressure-demand self contained breathing apparatus due to possible exposure to hydrogen chloride and phosgene gases.

**Unusual Fire and Explosion Hazards**

Vapors concentrated in a confined or poorly-ventilated area can be ignited upon contact with a spark, flame or high-intensity source of heat. This can occur at concentrations in air of approximately 8-10.5%.

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**Section V- Reactivity Data**

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**Hazardous Components**

- Stability: Stable
  
- Condition to Avoid: Open flames, hot glowing surfaces, or electric arcs.

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**Incompatibility (Materials to Avoid)**

May react violently with alkali and alkaline earth metals such as sodium, potassium and barium. Avoid mixing with caustic soda, caustic potash, or oxidizing materials.

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**Hazardous Decomposition or Byproducts**

Hydrogen chloride, phosgene.

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**Hazardous Polymerization**

- Will Not Occur

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**Section VI- Health Hazard Data**

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**Route(s) of Entry**

- Inhalation: X
- Skin: X
- Eye: X
- Ingestion: X

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**Health Hazardous (Acute and Chronic)**

**ANIMAL DATA:**

- LD50 (oral, rat) = 3670 mg/kg
- LD50 (oral, mouse) = 2402 mg/kg
- LC50 (inhalation, rat) = 8450 ppm for 4 hours

**Mutagenicity Data:**

- Ames Assay Positive
- Chromosome Aberration Positive

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**Carcinogenicity**

NTP: N/E  
IARC Monographs: 2A  
OSHA Regulated: N/E

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**Signs and Symptoms of Exposure****INHALATION:**

Vapors are irritating to the eyes, nose, throat and respiratory tract. May cause central nervous system (CNS) depression, liver, kidney, and cardiac arrhythmia.

**SKIN:**

Prolonged and repeated contact may cause mild skin irritation. May cause defatting, drying and cracking of the skin. Prolonged and repeated contact may lead to dermatitis. May be absorbed through intact skin causing central nervous system (CNS) depression, liver, kidney, and cardiac arrhythmia.

**EYE:**

May cause irritation, redness and pain. Vapors from this product are irritating to the eyes.

**INGESTION:**

May cause irritation and burning of the mouth, throat and respiratory tract and abdominal pain. Can cause central nervous system (CNS) depression, liver, kidney, and cardiac arrhythmia.

**Other Health Effects:**

Central nervous system depression (CNS) is characterized by headache, dizziness, drowsiness, nausea, vomiting, abdominal pain. Severe overexposures may lead to coma and possible death due to respiratory failure.

Signs and symptoms of kidney damage generally progress from oliguria, to blood in the urine, to total renal failure.

Trichloroethylene may sensitize heart muscle causing cardiac arrhythmia, in rare cases.

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## Emergency and First Aid Procedures

### INHALATION:

Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation if there is no breathing AND no pulse. Oxygen administration may be beneficial in this situation but should only be administered by personnel trained in its use. Obtain medical attention IMMEDIATELY.

### SKIN CONTACT:

Flush skin with running water then continue flushing with running water for a minimum of 15 minutes. Start flushing while removing contaminated clothing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY.

### EYE CONTACT:

Immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY.

### INGESTION:

If victim is alert and not convulsing, give 1/2 to 1 glass of water to dilute material. DO NOT induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. Obtain medical attention immediately.

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## Section VII- Precautions for Safe Handling and Use

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### Steps to Be Taken in Case Material is Released or Spilled

Immediately evacuate the area and provide maximum ventilation. Unprotected personnel should move upwind of spill. Only personnel equipped with proper respiratory and skin/eye protection should be permitted in area. Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover or absorb spilled material on sawdust or vermiculite and sweep into closed containers for disposal. After all visible traces have been removed, thoroughly wet vacuum the area. Do not flush into sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc., as necessary and place in closed containers for disposal.

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### Waste Disposal Method

Contaminated sawdust, vermiculite or porous surface must be disposed of in a permitted hazardous waste management facility. Recovered liquids may be reprocessed or incinerated or must be treated in a permitted hazardous waste management facility. Care must be taken when using or disposing of chemical materials and/or their containers to prevent environmental contamination.

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### Precautions to Be Taken in Handling and Storing

Ground and bond equipment and containers to prevent a static charge buildup.

Use spark-resistant tools and avoid "splash-filling" of containers.

Trichloroethylene should be stored in a cool place. Solvents should not be stored in basement premises because of the risk of accumulation of

heavy solvent vapors.

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**Other Precautions**

Under certain conditions, Trichloroethylene can react with aluminum to form acidic gases. This decomposition, if unchecked, can become violent.

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**Section VIII- Control Measures**

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**Respiratory Protection (Specify Type)**

A NIOSH/MSHA approved air-supplied respirator for concentrations of trichloro-ethylene above 500 ppm. A NIOSH/MSHA approved air-purifying respirator equipped with organic vapor cartridges for concentrations of trichloro -ethylene less than 500 ppm.

**Ventilation**

Local exhaust ventilation required.

**Skin Protection**

Impervious gloves and protective clothing should be used.

**Eye Protection**

Use chemical safety goggles when there is potential for eye contact.

**Other Protective Clothing or Equipment**

Impervious apron and boots. Locate safety shower and eyewash station close to chemical handling area.

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**Section IX- Additional Information**

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This Material Safety Data Sheet is offered only your information, consideration and investigation. Asahi Glass Co.,Ltd. provides no warranties, either express or implied, and assumes no responsibility for the accuracy or completeness of the data contained herein.

- o N/A = Not applicable
  - o N/E = Not established
  - o T.C.C = Tag Closed Cup
  - o C.O.C = Cleveland Open Cup
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