

1,2,4-Trichlorobenzene (348)

Version 1

Revision Date 02/21/2008

Print Date 02/21/2008

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 1,2,4-Trichlorobenzene
MSDS Number : 000000011217
Product Use Description : Solvent

Company : Honeywell International Inc.
1953 South Harvey Street
Muskegon, MI 49442

For more information call : 1-800-368-0050
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : Medical: 1-800-498-5701
: **Transportation: 1-800-424-9300 or 703-527-3887**
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid, clear

Color : colourless

Odor : aromatic

Hazard Summary : Harmful by inhalation. May be harmful if swallowed. Irritating to eyes, respiratory system and skin. May cause irritation of the gastrointestinal tract. Repeated exposure may cause skin dryness or cracking. Do not swallow. Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing.

Potential Health Effects

Skin : Irritating to skin.
May cause burns or external ulcers.
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

Eyes : Irritating to eyes.
Causes itching, burning, redness and tearing.

Ingestion : May be harmful if swallowed.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

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- Inhalation : Harmful by inhalation.
Irritating to respiratory system.
- Chronic Exposure : Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering. Repeated or prolonged exposure to the substance can produce liver damage. Repeated or prolonged exposure to the substance can produce kidney damage.
- Aggravated Medical Condition : Skin disorders
Liver disorders
Kidney disorders
Respiratory disorders
- Target Organs : Skin
Eyes
Respiratory system
Liver
Kidney

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Weight %
1,2,4-Trichlorobenzene	120-82-1	98.00
1,3,5-Trichlorobenzene	108-70-3	<2.00
1,2,3-Trichlorobenzene	87-61-6	<2.00

SECTION 4. FIRST AID MEASURES

- Inhalation : Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.
- Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician.

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Ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician.

Notes to physician

Treatment : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Flash point : 105 °C (221 °F)
closed cup

Ignition temperature : 571 °C (1,060 °F)

Lower explosion limit : 2.5 %(V)

Upper explosion limit : 6.6 %(V)

Suitable extinguishing media : Carbon dioxide (CO₂)
Dry chemical
Foam

Specific hazards during fire fighting : Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.
In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO₂)
Gaseous hydrogen chloride (HCl).

Special protective equipment for fire-fighters : In the event of fire and/or explosion do not breathe fumes. Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Wear personal protective equipment. Unprotected persons must be kept away. Ensure adequate ventilation. Remove all sources of ignition. Do not swallow. Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing.

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- Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
Prevent product from entering drains.
- Methods for cleaning up : Ventilate the area.
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

SECTION 7. HANDLING AND STORAGE**Handling**

- Handling : Handle with care.
Wear personal protective equipment.
Use only in well-ventilated areas.
Keep container tightly closed.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep away from fire, sparks and heated surfaces.
Do not smoke.
Do not swallow.
Avoid contact with skin, eyes and clothing.
Avoid breathing vapors, mist or gas.

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

- Requirements for storage areas and containers : Storage rooms must be properly ventilated.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Containers should be protected against falling down.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep away from heat and sources of ignition.
Keep away from direct sunlight.
Store away from incompatible substances.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.
Do not swallow.
Avoid breathing vapors, mist or gas.

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- Avoid contact with skin, eyes and clothing.
- Engineering measures : Use with local exhaust ventilation.
 Prevent vapor buildup by providing adequate ventilation during and after use.
- Eye protection : Do not wear contact lenses.
 Wear as appropriate:
 Safety glasses with side-shields
 If splashes are likely to occur, wear:
 Goggles or face shield, giving complete protection to eyes
- Hand protection : Solvent-resistant gloves
 Gloves must be inspected prior to use.
 Replace when worn.
- Skin and body protection : Wear as appropriate:
 Solvent-resistant apron and boots
 If splashes are likely to occur, wear:
 Protective suit
- Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
 For rescue and maintenance work in storage tanks use self-contained breathing apparatus.
 Use NIOSH approved respiratory protection.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
 When using, do not eat, drink or smoke.
 Wash hands before breaks and immediately after handling the product.
 Keep working clothes separately.
 Remove and wash contaminated clothing before re-use.
 Do not swallow.
 Avoid breathing vapors, mist or gas.
 Avoid contact with skin, eyes and clothing.

Exposure Guidelines

1,2,4-Trichlorobenzene	120-82-1	ACGIH	Ceiling		5 ppm
		NIOSH	Ceil_Time	5 ppm	40 mg/m3
		OSHA Z1A	Ceiling	5 ppm	40 mg/m3
		US CA OEL	Ceiling	5 ppm	40 mg/m3
		TX ESL	ST ESL	50 ppm	400 ug/m3
		TX ESL	AN ESL	5 ppm	40 ug/m3

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: liquid, clear
Color	: colourless
Odor	: aromatic
Molecular Weight	: 181.46 g/mol
pH	: not applicable
Melting point/range	: 17 °C (63 °F)
Boiling point/boiling range	: 213.5 °C (416.3 °F)
Vapor pressure	: 1.33 hPa at 20 °C (68 °F)
Relative vapour density	: 6.25 (Air = 1.0)
Density	: 1.454 g/cm ³ at 20 °C (68 °F)
Water solubility	: 31.3 mg/l negligible
Partition coefficient: n-octanol/water	: log Pow: 4.02

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	: Heat, flames and sparks. Keep away from direct sunlight. Protect from extreme heat and cold.
Materials to avoid	: Oxidizing agents Acids Steam
Hazardous decomposition products	: In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO ₂) Gaseous hydrogen chloride (HCl).
Hazardous reactions	: Hazardous polymerisation does not occur.

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Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	LD50 rat Dose: 756 mg/kg
Acute oral toxicity	:	LD50 mouse Dose: 300 mg/kg
Acute dermal toxicity	:	LD50 rat Dose: 6,139 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish	:	flow-through test LC50 Species: Pimephales promelas (fathead minnow) Dose: 2.990 mg/l Exposure time: 96 h
Toxicity to fish	:	LC50 Species: Oncorhynchus mykiss (rainbow trout) Dose: 1.95 mg/l Exposure time: 48 h

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Information: Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

DOT	UN-Number	:	2321
	Proper shipping name	:	Trichlorobenzenes, liquid
	Class	:	6.1
	Packing group	:	III
	Hazard Label	:	6.1
IATA	UN Number	:	2321
	Description of the goods	:	Trichlorobenzenes, liquid
	Class	:	6.1
	Packaging group	:	III
	Hazard Label	:	6.1

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Packing instruction (cargo aircraft) : 618
Packing instruction (passenger aircraft) : 611
Packing instruction (passenger aircraft) : Y611

IMDG Substance No. : UN 2321
Description of the goods : Trichlorobenzenes, liquid
Class : 6.1
Packaging group : III
Hazard Label : 6.1
EmS Number : F-A
Marine pollutant : yes

SECTION 15. REGULATORY INFORMATION**Inventories**

EU. EINECS : On or in compliance with the inventory

US. Toxic Substances Control Act : On TSCA Inventory

Australia. Industrial Chemical (Notification and Assessment) Act : On or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133) : All components of this product are on the Canadian DSL list.

Japan. Kashin-Hou Law List : On or in compliance with the inventory

Korea. Toxic Chemical Control Law (TCCL) List : On or in compliance with the inventory

Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act : On or in compliance with the inventory

China. Inventory of Existing Chemical Substances : On or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New : On or in compliance with the inventory

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Zealand

National regulatory information
SARA 313 Components : 1,2,4-Trichlorobenzene 120-82-1

CERCLA Reportable Quantity : 100 lbs

California Prop. 65 : This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

Massachusetts RTK : 1,2,3-Trichlorobenzene 87-61-6
: 1,2,4-Trichlorobenzene 120-82-1

New Jersey RTK : 1,2,4-Trichlorobenzene 120-82-1
: 1,3,5-Trichlorobenzene 108-70-3
: 1,2,3-Trichlorobenzene 87-61-6

Pennsylvania RTK : 1,2,4-Trichlorobenzene 120-82-1
: 1,3,5-Trichlorobenzene 108-70-3
: 1,2,3-Trichlorobenzene 87-61-6

WHMIS Classification : D1B
D2B

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health Hazard	: -	2
Flammability	: -	1
Physical Hazard	: -	
Instability	:	0