

1,2,4-Trichlorobenzene (348)**000000011217**

Version 1.3

Revision Date 04/23/2014

Print Date 09/10/2014

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 1,2,4-Trichlorobenzene (348)

MSDS Number : 000000011217

Product Use Description : Solvent

Manufacturer or supplier's details : Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962-1057

For more information call : 1-800-368-0050
+1-231-726-3171
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701 or +1-303-389-1414**
: **Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
:
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid, clear

Color : colourless

Odor : aromatic

Classification of the substance or mixture

Classification of the substance or mixture : Acute toxicity, Category 4, Oral
Skin irritation, Category 2

GHS Label elements, including precautionary statements

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Symbol(s)

:



Signal word

: Warning

Hazard statements

: Harmful if swallowed.
Causes skin irritation.

Precautionary statements

: **Prevention:**Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves.**Response:**IF SWALLOWED: Call a POISON CENTER or doctor/
physician if you feel unwell.IF ON SKIN: Wash with plenty of soap and water.
Rinse mouth.If skin irritation occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.**Disposal:**Dispose of contents/ container to an approved waste disposal
plant.**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

Formula

: C₆H₃Cl₃

Chemical nature

: Substance

Chemical Name	CAS-No.	Concentration
1,2,4-Trichlorobenzene	120-82-1	98.00%

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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.
- 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. FIREFIGHTING MEASURES

- Suitable extinguishing media : Carbon dioxide (CO₂)
Dry chemical
Foam
Cool closed containers exposed to fire with water spray.
- Specific hazards during firefighting : In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO₂)
Gaseous hydrogen chloride (HCl).

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Special protective equipment : In the event of fire and/or explosion do not breathe fumes. for firefighters

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

Environmental precautions : Prevent further leakage or spillage if safe to do so.
Prevent product from entering drains.
Discharge into the environment must be avoided.
Do not flush into surface water or sanitary sewer system.
Do not allow run-off from fire fighting to enter drains or water courses.

Methods for cleaning up : Ventilate the area.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE**Handling**

Handling : Wear personal protective equipment.
Use only in well-ventilated areas.
Keep container tightly closed.
Do not smoke.
Do not swallow.
Avoid breathing vapours, mist or gas.
Avoid contact with skin, eyes and clothing.

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Advice on protection
against fire and explosion : Normal measures for preventive fire protection.
Keep away from fire, sparks and heated surfaces.

Storage

Requirements for storage
areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated
place.
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.
Protect from physical damage.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures : Ensure that eyewash stations and safety showers are close to
the workstation location.

Engineering measures : Use with local exhaust ventilation.
Prevent vapour 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
If splashes are likely to occur, wear:
Protective suit

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory
equipment.
For rescue and maintenance work in storage tanks use self-
contained breathing apparatus.

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Use NIOSH approved respiratory protection.

Hygiene measures : 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 vapours, mist or gas.
 Avoid contact with skin, eyes and clothing.

Exposure Guidelines

Components	CAS-No.	Value	Control parameters	Update	Basis
1,2,4-Trichlorobenzene	120-82-1	Ceiling : Ceiling Limit Value:	(5 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values

1,2,4-Trichlorobenzene	120-82-1	Ceil_Tim e : Ceiling Limit Value and Time Period (if specified) :	40 mg/m3 (5 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
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1,2,4-Trichlorobenzene	120-82-1	Ceiling : Ceiling Limit Value:	40 mg/m3 (5 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid, clear
 Color : colourless
 Odor : aromatic

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pH : Note: not applicable

Melting point/freezing point : 17 °C

Boiling point/boiling range : 213.5 °C

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

Lower explosion limit : 2 %(V) at 150 °C

Upper explosion limit : 6.6 %(V) at 150 °C

Vapor pressure : 1.33 hPa
at 20 °C(68 °F)

Vapor density : 6.25 Note: (Air = 1.0)

Density : 1.454 g/cm³ at 20 °CWater solubility : 31.3 mg/l
Note: negligiblePartition coefficient: n-
octanol/water : log Pow: 4.02

Ignition temperature : 571 °C

Molecular weight : 181.46 g/mol

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SECTION 10. STABILITY AND REACTIVITY

Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Hazardous polymerisation does not occur.
Conditions to avoid	: Heat, flames and sparks. Keep away from direct sunlight. Protect from extreme heat and cold.
Incompatible 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).

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	: LD50: 756 mg/kg Species: rat
Acute dermal toxicity	: LD50: 6,139 mg/kg Species: rat
Skin irritation	: Result: Irritating to skin.
Eye irritation	: Species: rabbit Result: slight irritation

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SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity effects**

Toxicity to fish : LC50: 2.4 mg/l
Exposure time: 96 h
Species: *Oryzias latipes* (Orange-red killifish)
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50: 1.4 mg/l
Exposure time: 48 h
Species: *Daphnia magna* (Water flea)
Method: OECD Test Guideline 202

Toxicity to algae : EC50: 1.4 mg/l
Exposure time: 96 h
Species: *Pseudokirchneriella subcapitata* (*Selenastrum capricornutum*)

Further information on ecology**SECTION 13. DISPOSAL CONSIDERATIONS**

Disposal methods : Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

DOT UN/ID No. : UN 2321
Proper shipping name : TRICHLOROBENZENES, LIQUID
Class : 6.1
Packing group : III
Hazard Labels : 6.1

IATA UN/ID No. : UN 2321

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Description of the goods : TRICHLOROBENZENES, LIQUID
 Class : 6.1
 Packaging group : III
 Hazard Labels : 6.1
 Packing instruction (cargo aircraft) : 663
 Packing instruction (passenger aircraft) : 655
 Packing instruction (passenger aircraft) : Y642

IMDG UN/ID No. : UN 2321
 Description of the goods : TRICHLOROBENZENES, LIQUID
 Class : 6.1
 Packaging group : III
 Hazard Labels : 6.1
 EmS Number : F-A, S-A
 Marine pollutant : yes

SECTION 15. REGULATORY INFORMATION**Inventories**

US. Toxic Substances Control Act : On TSCA Inventory

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

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL) : All components of this product are on the Canadian DSL.

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

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

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

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Act

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

NZIOC - New Zealand : On the inventory, or in compliance with the inventory

National regulatory information

US. EPA CERCLA Hazardous Substances (40 CFR 302) : The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):

Reportable quantity: 100 lbs
: 1,2,4-Trichlorobenzene 120-82-1

SARA 302 Components : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:
: 1,2,4-Trichlorobenzene 120-82-1

SARA 311/312 Hazards : Acute Health Hazard

CERCLA Reportable Quantity : 100 lbs

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

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

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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: Toxic Material Causing Immediate and Serious Toxic Effects
 D2B: Toxic Material Causing Other Toxic Effects
 This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16. OTHER INFORMATION

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

* - Chronic health hazard

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group