

10% DCA in Toluene (v/v) (676)

Version 1

Revision Date 04/09/2008

Print Date 04/11/2008

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 10% DCA in Toluene (v/v) (676)
MSDS Number : 000000012891
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 : slight pungent

Hazard Summary : Flammable. In use, may form flammable/explosive vapour-air mixture. Corrosive. Harmful or fatal if swallowed. May be fatal if inhaled. May be harmful if absorbed through skin. Aspiration hazard if swallowed - can enter lungs and cause damage. Causes burns. Causes severe irritation of eyes, skin and mucous membranes. Causes headache, drowsiness or other effects to the central nervous system. Repeated exposure may cause skin dryness or cracking. Do not swallow. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing. Possible risk of harm to the unborn child. Avoid exposure to pregnant women especially. Contains material which may cause cancer based on animal data.

Potential Health Effects

Skin : Corrosive.
Causes skin burns.
Causes severe skin irritation.
May be harmful if absorbed through skin.
May cause systemic poisoning with symptoms paralleling those

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	of inhalation. Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.
Eyes	: Corrosive - causes irreversible eye damage. Causes eye burns. Causes serious eye irritation. May cause blindness.
Ingestion	: Corrosive. Harmful or fatal if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage. Causes digestive tract burns. Causes headache, drowsiness or other effects to the central nervous system.
Inhalation	: Corrosive. May be fatal if inhaled. Causes burns. Strong irritating effect on the respiratory tract and the lungs. Inhaled corrosive substances can lead to a toxic oedema of the lungs. Causes headache, drowsiness or other effects to the central nervous system. Inhalation of high vapour concentrations can cause CNS-depression and narcosis.
Chronic Exposure	: Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Repeated or prolonged exposure to the substance can produce liver damage. Repeated or prolonged exposure to the substance can produce kidney damage. Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering. Possible risk of harm to the unborn child. Potential embryo-foetal toxicity and teratogenicity. Contains material which may cause cancer based on animal data.
Aggravated Medical Condition	: Respiratory disorders Liver disorders Kidney disorders Skin disorders Heart disease Neurological disorders Do not use if pregnant.
Target Organs	: Eyes Skin

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Respiratory system
 Central nervous system
 Liver
 Kidney
 testes

Carcinogenicity

IARC: Dichloroacetic acid 79-43-6

ACGIH: Dichloroacetic acid 79-43-6

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Weight %
Toluene	108-88-3	83.20
Dichloroacetic acid	79-43-6	16.70

SECTION 4. FIRST AID MEASURES

- Inhalation : Call a physician immediately. 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.
- 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 immediately.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
- Ingestion : Do not induce vomiting without medical advice. If a person vomits when lying on his back, place him in the recovery position. Call a physician immediately. Never give anything by mouth to an unconscious person.

Notes to physician

- Treatment : Treat symptomatically.

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SECTION 5. FIRE-FIGHTING MEASURES

- Flash point : <8.33 °C (46.99 °F)
- Lower explosion limit : not determined
- Upper explosion limit : not determined
- Suitable extinguishing media : Foam
Carbon dioxide (CO₂)
Dry chemical
- Extinguishing media which shall not be used for safety reasons : Water may be ineffective.
Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during fire fighting : Flammable.
Vapours may form explosive mixtures with air.
Vapours are heavier than air and may spread along floors.
Vapors may travel to areas away from work site before igniting/flashing back to vapor source.
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.
No unprotected exposed skin areas.

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.
Vapors may travel to areas away from work site before igniting/flashing back to vapor source.
Do not swallow.
Do not get in eyes, on skin, or on clothing.
Do not breathe vapours or spray mist.

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- Environmental precautions : Prevent further leakage or spillage if safe to do so.
Discharge into the environment must be avoided.
Do not flush into surface water or sanitary sewer system.
Prevent product from entering drains.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Methods for cleaning up : Ventilate the area.
No sparking tools should be used.
Use explosion-proof equipment.
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.
Take precautionary measures against static discharges.
Ensure all equipment is electrically grounded before beginning transfer operations.
No sparking tools should be used.
Use explosion-proof equipment.
Do not smoke.
Do not swallow.
Do not get in eyes, on skin, or on clothing.
Do not breathe vapours or spray mist.
- Advice on protection against fire and explosion : Vapours may form explosive mixtures with air.
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
Vapours are heavier than air and may spread along floors.
Vapors may travel to areas away from work site before igniting/flashing back to vapor source.
Container hazardous when empty.
Keep product and empty container away from heat and sources of ignition.
Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Take measures to prevent the build up of electrostatic charge.

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To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded.
 Electrical equipment should be protected to the appropriate standard.
 No sparking tools should be used.
 Use explosion-proof equipment.
 No smoking.

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 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 in area designed for storage of flammable liquids. Protect from physical damage.
 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.
 Do not breathe vapours or spray mist.
 Do not get in eyes, on skin, or on 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
 Flame retardant antistatic protective clothing
 If splashes are likely to occur, wear:
 Protective suit

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Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
 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.
 Do not breathe vapours or spray mist.
 Do not get in eyes, on skin, or on clothing.

Exposure Guidelines

Toluene	108-88-3	ACGIH	TWA		20 ppm
		NIOSH	REL	100 ppm	375 mg/m3
		NIOSH	STEL	150 ppm	560 mg/m3
		US CA OEL	TWA PEL	50 ppm	188 mg/m3
		US CA OEL	Ceiling		500 ppm
		US CA OEL	STEL	150 ppm	560 mg/m3

Skin designation:
 Can be absorbed through the skin.

OSHA Z2	TWA		200 ppm
OSHA Z2	Ceiling		300 ppm
OSHA Z2	MAX. CONC		500 ppm
OSHA Z1A	TWA	100 ppm	375 mg/m3
OSHA Z1A	STEL	150 ppm	560 mg/m3

Dichloroacetic acid	79-43-6	ACGIH NIC	TWA		0.5 ppm
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Skin designation:
 Can be absorbed through the skin.

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ACGIH

TWA

0.5 ppm

Skin designation:
Can be absorbed through the skin.**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Form	: liquid, clear
Color	: colourless
Odor	: slight pungent
pH	: acidic
Freezing point	: no data available
Boiling point/boiling range	: no data available
Density	: 0.9356 g/cm ³ at 20 °C (68 °F)
Water solubility	: insoluble, Toluene

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	: Heat, flames and sparks. Keep away from direct sunlight.
Materials to avoid	: Strong oxidizing agents Strong acids and strong bases Reducing agents May attack many plastics, rubbers and coatings.
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. Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

Component: 108-88-3 Toluene

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(Component)	LD50 rat Dose: 2,600 - 7,500 mg/kg
Acute oral toxicity (Component)	Component: 79-43-6 Dichloroacetic acid LD50 rat Dose: 2,820 mg/kg
Acute dermal toxicity (Component)	Component: 108-88-3 Toluene LD50 rabbit Dose: 12,124 mg/kg
Acute dermal toxicity (Component)	Component: 79-43-6 Dichloroacetic acid LD50 rabbit Dose: 510 mg/kg
Acute inhalation toxicity (Component)	Component: 108-88-3 Toluene LC50 rat Dose: ca. 33 mg/l Exposure time: 4 h
Skin irritation (Component)	Component: 79-43-6 Dichloroacetic acid rabbit Corrosive
Eye irritation (Component)	Component: 79-43-6 Dichloroacetic acid rabbit Corrosive
Additional advice	: Contains material which may cause cancer based on animal data.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish (Component)	: Component: 108-88-3 Toluene LC50 Species: Pimephales promelas (fathead minnow) Dose: 36.2 mg/l Exposure time: 96 h
Toxicity to fish (Component)	: Component: 108-88-3 Toluene LC50 Species: Bluegill sunfish Dose: 13 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates. (Component)	: Component: 108-88-3 Toluene LC50 Species: Daphnia magna (Water flea)

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	Dose: 313 mg/l Exposure time: 48 h
Toxicity to algae (Component)	: Component: 108-88-3 Toluene LC50 Species: Algae Dose: > 100 mg/l Exposure time: 24 h
Toxicity to bacteria (Component)	: Component: 108-88-3 Toluene EC50 Species: Photobacterium phosphoreum Dose: 19.7 mg/l Exposure time: 0.5 h
Additional ecological information	: Bioaccumulation is unlikely. Harmful to aquatic life. Do not flush into surface water or sanitary sewer system.

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

DOT	UN-Number	: 2924
	Proper shipping name	: Flammable liquid, corrosive, n.o.s. (Toluene, Dichloroacetic acid)
	Class	: 3
	Packing group	: II
	Hazard Label	: 3 (8)
IATA	UN Number	: 2924
	Description of the goods	: Flammable liquid, corrosive, n.o.s. (Toluene, Dichloroacetic acid)
	Class	: 3
	Packaging group	: II
	Hazard Label	: 3 (8)
	Packing instruction (cargo aircraft)	: 307
	Packing instruction (passenger aircraft)	: 305
	Packing instruction (passenger aircraft)	: Y305
IMDG	Substance No.	: UN 2924
	Description of the goods	: Flammable liquid, corrosive, n.o.s.

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	(Toluene, Dichloroacetic acid)
Class	: 3
Packaging group	: II
Hazard Label	: 3 (8)
EmS Number	: F-E
Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION
Inventories

- EU. EINECS : On the inventory, or in compliance with the inventory
- 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). (Can. Gaz. Part II, Vol. 133) : All components of this product are on the Canadian DSL list.
- 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 Act : On the inventory, or in compliance with the inventory
- China. Inventory of Existing Chemical Substances : On the inventory, or in compliance with the inventory
- Switzerland. Consolidated Inventory : On the inventory, or in compliance with the inventory
- New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : On the inventory, or in compliance with the inventory

National regulatory information

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SARA 313 Components	: Toluene	108-88-3
SARA 311/312 Hazards	: Fire Hazard Acute Health Hazard Chronic Health Hazard	
CERCLA Reportable Quantity	: 1202 lbs	
California Prop. 65	: WARNING! This product contains a chemical known in the State of California to cause cancer. Dichloroacetic acid Benzene	79-43-6 71-43-2
	: WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm. Toluene Benzene	108-88-3 71-43-2
Massachusetts RTK	: Toluene Benzene	108-88-3 71-43-2
New Jersey RTK	: Toluene Dichloroacetic acid	108-88-3 79-43-6
Pennsylvania RTK	: Toluene Dichloroacetic acid	108-88-3 79-43-6
WHMIS Classification	: B2 E D2A D2B	

SECTION 16. OTHER INFORMATION

Health Hazard	HMIS III	NFPA
	: 3*	3

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Flammability	:	3	3
Physical Hazard	:	0	
Instability	:		0

Further information

* - Chronic health hazard