

Chlorobenzene (043)

Version 1

Revision Date 10/08/2009

Print Date 10/08/2009

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Chlorobenzene (043)
MSDS Number : 000000011340
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 +1-703-527-3887**
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid
Color : colourless
Odor : sweet

Hazard Summary : Flammable. In use, may form flammable/explosive vapour-air mixture. May be harmful if swallowed. May be harmful if absorbed through skin. Irritating to respiratory system and skin. May irritate eyes. May cause irritation of the gastrointestinal tract. Repeated exposure may cause skin dryness or cracking. Confirmed animal carcinogen with unknown relevance to humans.

Potential Health Effects

Skin : Irritating to skin.
May be harmful if absorbed through skin.
May cause systemic poisoning with symptoms paralleling those of inhalation.
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

Eyes : May irritate eyes.

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	Signs/symptoms can include redness, swelling, pain, and tearing.
Ingestion	: May cause irritation of the gastrointestinal tract. May cause nausea, vomiting, diarrhea, and abdominal discomfort. May cause systemic poisoning with symptoms paralleling those of inhalation.
Inhalation	: Causes respiratory tract irritation. 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. Causes headache, drowsiness or other effects to the central nervous system. 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. Confirmed animal carcinogen with unknown relevance to humans.
Aggravated Medical Condition	: Skin disorders Liver disorders Kidney disorders Respiratory disorders
Target Organs	: Eyes Skin Respiratory system Central nervous system Liver Kidney

Carcinogenicity

ACGIH: Chlorobenzene

108-90-7

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Component	CAS-No.	Weight percent
Chlorobenzene	108-90-7	100.00

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 if irritation develops or persists.
- 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 : 28 °C (82 °F)
closed cup
- Ignition temperature : 593 °C (1,099 °F)
- Lower explosion limit : 1.3 %(V)
- Upper explosion limit : 7.1 %(V)
- Suitable extinguishing media : Dry chemical
Foam
Carbon dioxide (CO₂)
Cool closed containers exposed to fire with water spray.
- 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.

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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.
In case of fire hazardous decomposition products may be produced such as:
Phosgene
Carbon oxides
Chloride fumes

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Wear personal protective equipment.
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 vapors, 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.
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 : Wear personal protective equipment.
Use only in well-ventilated areas.
Keep container tightly closed.
Do not smoke.

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Do not swallow.
 Avoid breathing vapors, mist or gas.
 Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion : Keep away from fire, sparks and heated surfaces.
 Take precautionary measures against static discharges.
 Ensure all equipment is electrically grounded before beginning transfer operations.
 Use explosion-proof equipment.
 Keep product and empty container away from heat and sources of ignition.
 No sparking tools should be used.
 No smoking.

Storage

Requirements for storage areas and containers : Store in area designed for storage of flammable liquids. Protect from physical damage.
 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.
 Container hazardous when empty.
 Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

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 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.

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- Skin and body protection** : Wear as appropriate:
 Solvent-resistant apron
 Flame retardant antistatic protective clothing
 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.
 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.
 Do not swallow.
 Avoid breathing vapors, mist or gas.
 Avoid contact with skin, eyes and clothing.

Exposure Guidelines

Chlorobenzene	108-90-7	ACGIH	TWA		10 ppm
		OSHA Z1	PEL	75 ppm	350 mg/m ³
		OSHA Z1A	TWA	75 ppm	350 mg/m ³
		US CA OEL	TWA PEL	10 ppm	46 mg/m ³

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Form** : liquid
- Color** : colourless
- Odor** : sweet
- Molecular Weight** : 112.56 g/mol
- pH** : no data available
- Melting point/range** : -46 °C (-51 °F)
- Boiling point/boiling range** : 132 °C (270 °F)
- Vapor pressure** : 11.7 hPa

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at 20 °C (68 °F)

Relative vapour density : 3.9

Density : 1.1058 g/cm³
at 20 °C (68 °F)

Water solubility : negligible

SECTION 10. STABILITY AND REACTIVITY

Materials to avoid : Strong oxidizing agents
Silver perchlorate
Sodium
Dimethyl sulfoxide
Plastics
Rubber and coatings

Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:
Phosgene
Carbon oxides
Chloride fumes

Hazardous reactions : Hazardous polymerisation does not occur.
Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50 rat
Dose: 2,290 mg/kg

Acute dermal toxicity : LD0 rabbit
Dose: 2,200 mg/kg

Skin irritation : rabbit
Mild skin irritation
(single exposure)

Skin irritation : rabbit
Severe skin irritation
(continuous exposure for one week)

Eye irritation : rabbit
mild transient effects

Repeated dose toxicity : Oral rat Liver, Kidney, 5d/wk for 192 days

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	188mg/kg/d
Repeated dose toxicity	: Oral dog Liver, Kidney, Gastrointestinal tract, Blood effects, (death in 4/8 animals) at 272.5 mg/kg/d, 5d/wk for 93 days
Repeated dose toxicity	: Inhalation rat 7 h/d, 5 d/wk for 32 exposures, slight liver effects, 475 ppm, lung, liver and kidney effects; death in guinea pigs, 1000 ppm NOEL: 200 ppm
Repeated dose toxicity	: Inhalation rabbit 7 h/d, 5 d/wk for 32 exposures, slight liver effects, 475 ppm, lung, liver and kidney effects; death in guinea pigs, 1000 ppm NOEL: 200 ppm
Repeated dose toxicity	: Inhalation guinea pig 7 h/d, 5 d/wk for 32 exposures, slight liver effects, 475 ppm, lung, liver and kidney effects; death in guinea pigs, 1000 ppm NOEL: 200 ppm
Additional advice	: Confirmed animal carcinogen with unknown relevance to humans.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish	: LC50 Species: Fathead minnow Dose: 16.9 mg/l Exposure time: 96 h
Toxicity to fish	: LC50 Species: Oncorhynchus mykiss (rainbow trout) Dose: 1.8 mg/l Exposure time: 24 h

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

DOT	UN-Number	: 1134
	Proper shipping name	: Chlorobenzene

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Class	3
Packing group	III
Hazard Labels	3

IATA	UN Number	: 1134
	Description of the goods	: Chlorobenzene
	Class	: 3
	Packaging group	: III
	Hazard Labels	: 3
	Packing instruction (cargo aircraft)	: 310
	Packing instruction (passenger aircraft)	: 309
	Packing instruction (passenger aircraft)	: Y309

IMDG	Substance No.	: UN 1134
	Description of the goods	: Chlorobenzene
	Class	: 3
	Packaging group	: III
	Hazard Labels	: 3
	EmS Number	: F-E
	Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION
Inventories

1907/2006 (EU)	: This mixture contains only ingredients which have been subject to a pre-registration according to Regulation (EC) No. 1907/2006 (REACH).
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	: On the inventory, or in compliance with the inventory

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Control Law (TCCL) List

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

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

TSCA 12B : US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

Chlorobenzene 108-90-7

National regulatory information

SARA 313 Components : Chlorobenzene 108-90-7

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

CERCLA Reportable Quantity : 100 lbs

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

Massachusetts RTK : Chlorobenzene 108-90-7

New Jersey RTK : Chlorobenzene 108-90-7

Pennsylvania RTK : Chlorobenzene 108-90-7

WHMIS Classification : B2
D1B

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D2B

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*	3
Flammability	: 3	3
Physical Hazard	: 0	
Instability	:	0

Further information

* - Chronic health hazard