

Printing date 08/15/2019

Reviewed on 08/15/2019

1 Identification

- **Product identifier**
- **Trade name:** C Thinner
- **Product number:** M040100
- **CAS Number:**
108-90-7
- **EC number:**
203-628-5
- **Index number:**
602-033-00-1
- **Application of the substance / the mixture** Thinner, Diluent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Kayaku Advanced Materials
200 Flanders Road
Westborough, MA 01581
Tel: (617) 965-5511
Fax: (617) 965-5818
- **Information department:**
Product Safety
Email: productsafety@kayakuAM.com
- **Emergency telephone number:**
Kayaku Advanced Materials : 617-965-5511
Chemtrec USA Emergency : 800-424-9300
Chemtrec International Emergency : 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.



GHS08 Health hazard

STOT RE 1 H372 Causes damage to the kidneys, the liver, the spleen, the bone marrow and the thymus through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.



GHS09 Environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

 Acute Tox. 4 H302 Harmful if swallowed.
 Acute Tox. 4 H332 Harmful if inhaled.

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Skin Irrit. 2 H315 Causes skin irritation.
 STOT SE 3 H336 May cause drowsiness or dizziness.

· **Label elements**

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

Chlorobenzene

· **Hazard statements**

H226 Flammable liquid and vapor.
 H302+H332 Harmful if swallowed or if inhaled.
 H315 Causes skin irritation.
 H336 May cause drowsiness or dizziness.
 H372 Causes damage to the kidneys, the liver, the spleen, the bone marrow and the thymus through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.
 H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P260 Do not breathe dust/fume/gas/mist/vapors/spray.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P310 If swallowed: Immediately call a poison center/doctor.
 P302+P352 If on skin: Wash with plenty of soap and water.
 P304+P341 If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P370+P378 In case of fire: Use for extinction: Alcohol resistant foam.
 P370+P378 In case of fire: Use for extinction: Fire-extinguishing powder.
 P370+P378 In case of fire: Use for extinction: Carbon dioxide.
 P403+P235 Store in a well-ventilated place. Keep cool.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3
 Fire = 3
 Reactivity = 0

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· HMIS-ratings (scale 0 - 4)

HEALTH	3	Health = 3
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
108-90-7 chlorobenzene
- **Identification number(s)**
- **EC number:** 203-628-5
- **Index number:** 602-033-00-1

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
Inhalation is not an expected route of exposure. If respiratory irritation or distress occurs remove victim to fresh air. Seek medical attention if respiratory irritation or distress continues.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Wash eyes immediately with a large amount of water or normal saline, occasionally lifting upper and lower eye lids until no evidence of chemical remains (about 20 minutes). Remove contact lenses if present and easy to remove. Seek immediate medical attention.
- **After swallowing:** Do not induce vomiting; immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** Treat symptomatically.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
Alcohol resistant foam
Carbon dioxide
Fire-extinguishing powder
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.

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- **Advice for firefighters**
- **Protective equipment:** Wear SCBA.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to Section 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaust at the workplace.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:**
Do not store together with alkalis (caustic solutions).
Do not store together with oxidizing and acidic materials.
- **Further information about storage conditions:**
Keep container well-sealed in cool, dry location.
Protect from heat and direct sunlight.
Store receptacle in a well ventilated area.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

Components with limit values that require monitoring at the workplace:	
108-90-7 Chlorobenzene	
PEL	350 mg/m ³ , 75 ppm
TLV	46 mg/m ³ , 10 ppm
BEI	

- **Additional information:** The lists that were valid during the creation were used as basis.

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 Keep away from food and beverages.
 Wash hands before breaks and at the end of work.
- **Respiratory equipment:**
 In case of low exposure, use cartridge respirator. In case of intensive or longer exposure, use SCBA.
- **Protection of hands:**



Protective gloves

PVA gloves

- **Material of gloves**
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material** Contact glove manufacture for break-through time.
- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Fluid
Color:	Colorless
Odor:	Aromatic
Odor threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range:	-45.1 °C (-49.2 °F)
Boiling point/Boiling range:	132 °C (269.6 °F)

- **Flash point:** 28 °C (82.4 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 590 °C (1,094 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Not determined.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

Lower:	1.3 Vol %
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Upper:	11 Vol %
· Vapor pressure at 20 °C (68 °F):	12 hPa (9 mm Hg)
· Density at 20 °C (68 °F):	1.11 g/cm ³ (9.26295 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	1.6-2.3 (BuAc=1)
· Solubility in / Miscibility with Water at 20 °C (68 °F):	0.49 g/l
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**
Contact with incompatible materials.
Heat, flames and sparks. Extremes of temperature and direct sunlight.
- **Incompatible materials:** Strong Oxidizing Agents, Strong Acids, Strong Bases
- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

 · **LD/LC50 values that are relevant for classification:**

108-90-7 Chlorobenzene

Oral	LD50	1110 mg/kg (Rat)
Dermal	LD50	>7940 mg/kg (rabbit)
Inhalative	LC50	13.9 mg/L (Rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

 · **Carcinogenic categories**

 · **IARC (International Agency for Research on Cancer)**

Substance is not listed.

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 · **NTP (National Toxicology Program)**

Substance is not listed.

 · **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

12 Ecological information

 · **Toxicity**

 · **Aquatic toxicity:**
108-90-7 Chlorobenzene

EC50/24 h	4.30-16.00 mg/l (daphnia magna)
EC50/96 hr	12.5 mg/l (algae)
LC100/48 h	0.03-28 mg/l (golden orfe)
LC50/76 h	4.5-7.4 mg/l (Lepomis macrochirus (Bluegill))

 · **Persistence and degradability** No further relevant information available.

 · **Behavior in environmental systems:**

 · **Bioaccumulative potential** No further relevant information available.

 · **Mobility in soil** No further relevant information available.

 · **Ecotoxicological effects:**

 · **Remark:** Toxic for fish

 · **Additional ecological information:**

 · **General notes:**

Water hazard class 2 (Assessment by list): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Toxic for aquatic organisms

 · **Results of PBT and vPvB assessment**

 · **PBT:** Not applicable.

 · **vPvB:** Not applicable.

 · **Other adverse effects** No further relevant information available.

13 Disposal considerations

 · **Waste treatment methods**

 · **Recommendation:**

Must not be disposed of as regular garbage/trash. Do not allow product to reach sewage system.

Disposal must be made in accordance with Federal, State, and Local regulations.

 · **Uncleaned packagings:**

 · **Recommendation:** Disposal must be made in accordance with Federal, State, and Local regulations.

14 Transport information

 · **UN-Number**

 · **DOT, ADR, IMDG, IATA**

UN1134

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· **UN proper shipping name**
 · **DOT, ADR** Chlorobenzene
 · **IMDG** CHLOROBENZENE, MARINE POLLUTANT
 · **IATA** CHLOROBENZENE

· **Transport hazard class(es)**
 · **DOT**



· **Class** 3 Flammable liquids
 · **Label** 3

· **ADR, IMDG, IATA**



· **Class** 3 Flammable liquids
 · **Label** 3

· **Packing group**
 · **DOT, ADR, IMDG, IATA** III

· **Environmental hazards:**
 · **Marine pollutant:** Yes

· **Special precautions for user** Warning: Flammable liquids
 · **Danger code (Kemler):** 30
 · **EMS Number:** F-E,S-D
 · **Segregation groups** Liquid halogenated hydrocarbons

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **UN "Model Regulation":** UN1134, Chlorobenzene, 3, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 · **Sara**

· **Section 355 (extremely hazardous substances):**
 Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**
 Substance is listed.

· **TSCA (Toxic Substances Control Act):**
 · **Proposition 65**

· **Chemicals known to cause cancer:**
 Substance is not listed.

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· Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

· Carcinogenic categories
· EPA (Environmental Protection Agency)

D

· TLV (Threshold Limit Value established by ACGIH)

A3

· NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

· Massachusetts State Right To Know List

108-90-7 Chlorobenzene

· New Jersey State Right To Know List

108-90-7 Chlorobenzene

· Pennsylvania Hazardous Substances List

108-90-7 Chlorobenzene

· California SCAQMD Rule 443.1 VOC's: 1107 g/l; 11.8 mm Hg @ 20C
· GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms


GHS02 GHS07 GHS08 GHS09

· Signal word Danger
· Hazard-determining components of labeling:

Chlorobenzene

· Hazard statements

H226 Flammable liquid and vapor.

H302+H332 Harmful if swallowed or if inhaled.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H372 Causes damage to the kidneys, the liver, the spleen, the bone marrow and the thymus through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.

H411 Toxic to aquatic life with long lasting effects.

· Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 If swallowed: Immediately call a poison center/doctor.

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- P302+P352 *If on skin: Wash with plenty of soap and water.*
- P304+P341 *If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.*
- P305+P351+P338 *If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
- P333+P313 *If skin irritation or rash occurs: Get medical advice/attention.*
- P337+P313 *If eye irritation persists: Get medical advice/attention.*
- P370+P378 *In case of fire: Use for extinction: Alcohol resistant foam.*
- P370+P378 *In case of fire: Use for extinction: Fire-extinguishing powder.*
- P370+P378 *In case of fire: Use for extinction: Carbon dioxide.*
- P403+P235 *Store in a well-ventilated place. Keep cool.*
- P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product safety department
- **Contact:** Tom Cole, EHS Manager (tcole@kayakuAM)

· **Revision History:**

The manufacturer's information in Section 1, the product hazard information in Section 2 and the component hazard information in Section 3 have been updated.

- **Date of preparation / last revision** 08/15/2019 / 2

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2