



Safety Data Sheet

Chloroform

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Chloroform, ACS, HPLC

Synonyms/Generic Names: Trichloromethane; Methylidene Trichloride

Product Number: CP-B7304, CP-C7304, CP-B7305, CP-C7305, 1395

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: ChemPure Brand Chemicals.
39103 Warren Road
Westland, MI 48185

For More Information Call: 734-729-1805 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Carcinogen, Target organ effect, Harmful by ingestion, Irritant

Target Organs: Central nervous system, Blood, Liver, Cardiovascular system, Kidney

Signal Words: Warning

Pictograms:



GHS Classification:

Acute toxicity, Oral	Category 4
Acute toxicity, Inhalation	Category 4
Skin irritation	Category 2
Eye irritation	Category 2A
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity- single exposure (central nervous system)	Category 3
Specific target organ toxicity- repeated exposure (liver, kidneys)	Category 2
Acute aquatic toxicity	Category 3

GHS Label Elements, including precautionary statements:

Hazard Statements:

H302+H332	Harmful if swallowed or if inhaled.
H315	Causes skin irritation.

H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs (Liver, Kidney) through prolonged or repeated exposure.
H402	Harmful to aquatic life.

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P330	Rinse mouth.
P332+P337+P313	If skin or eye irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

Potential Health Effects

Eyes	Causes eye irritation.
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Ingestion	Harmful if swallowed.

NFPA Ratings

Health	2
Flammability	0
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	2
Fire	0
Reactivity	0
Personal	H

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Chloroform	100	67-66-3	200-663-8	CHCl ₃	119.38 g/mol

4. FIRST-AID MEASURES

Eyes	In case of eye contact, rinse with plenty of water and seek medical attention.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use appropriate media for adjacent fire. Cool unopened containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes(carbon oxides, phosgene, hydrogen chloride gas) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Neutralize spill with sodium bicarbonate or lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Chloroform	10 ppm 49 mg/m ³	TLV	ACGIH
	50 ppm	CEIL	OSHA

	240 mg/m ³		
	2 ppm 9.78 mg/m ³	STEL (60 minutes)	NIOSH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles with a face shield.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless, liquid
Odor	Mild, sweet odor.
Odor threshold	85 ppm
pH	Not Available
Melting point/freezing point	-63°C (-81°F)
Initial boiling point and boiling range	60.5-61.5°C (140.9-142.7°F)
Flash point	Not Flammable
Evaporation rate	11.6
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Flammable
Vapor pressure	213.3 hPa (160.0 mmHg) at 20.0°C (68.0°F)
Vapor density	4.13 (air=1)
Relative density	Not Available
Solubility (ies)	Slightly soluble in water.
Partition coefficient: n-octanol/water	Log Pow: 1.97
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Exposure to air and light.
Incompatible Materials	Strong oxidizing agents, strong bases, magnesium, sodium, lithium.
Hazardous Decomposition Products	Carbon oxides, phosgene, hydrogen chloride gas.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	LD50 Dermal – rabbit - >20,000 mg/kg
Eyes	Eyes – rabbit – Irritating to eyes – 24 hours
Respiratory	LC50 Inhalation – rat – 4 hours – 47,702 mg/m ³
Ingestion	LD50 Oral – rat – 695.0 mg/kg

Carcinogenicity

IARC	2B: Possibly carcinogenic to humans (chloroform).
ACGIH	A3: Confirmed animal carcinogen with unknown relevance to humans (chloroform).
NTP	Reasonably anticipated to be a human carcinogen (chloroform).
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Redness, Itching.
Eyes	Redness, tearing, itching, burning, conjunctivitis.
Respiratory	Irritation of mucous membranes, coughing, wheezing, shortness of breath, loss of consciousness.
Ingestion	Irritation and burning sensations of mouth and throat, nausea, vomiting, and abdominal pain.

Chronic Toxicity	May cause adverse reproductive effects.
Teratogenicity	Not Available
Mutagenicity	Laboratory experiments have shown mutagenic effects.
Embryotoxicity	Not Available
Specific Target Organ Toxicity	May cause damage to organs through prolonged or repeated exposure.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	LC50 – Leuciscus idus (Golden orfe) – 162 mg/l – 48 hours LC100 – Leuciscus idus (Golden orfe) – 220 mg/l – 48 hours LC50 – Other fish – 97 mg/l – 96 hours LC50 – Danio rerio (Zebra fish) – 121 mg/l – 96 hours NOEC – Oryzias latipes – 122 mg/l – 10 days NOEC – Oncorhynchus mykiss (Rainbow trout) – 24 mg/l – 96 hours LC50 – Trout – 43.8 mg/l – 96 hours
Aquatic Invertebrate	EC50 – Daphnia magna (Water flea) – 79.00 mg/l – 24 hours Immobilization EC50 – Daphnia magna (Water flea) – 51.6 mg/l – 48 hours NOEC – Daphnia magna (Water Flea) – 120 mg/l – 11 days
Terrestrial	EC50 – No information available – 500.00 mg/l – 24 hours

Persistence and Degradability	Not Available
Bioaccumulative Potential	Lepomis Macrochirus (Bluegill) – 14 days Bioconcentration factor (BCF): 6
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN1888, Chloroform, 6.1, pg III
TDG	UN1888, CHLOROFORM, 6.1, pg III
IMDG	UN1888, CHLOROFORM, 6.1, pg III
Marine Pollutant	No
IATA/ICAO	UN1888, Chloroform, 6.1, pg III

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Listed: Chloroform
SARA 302	Listed: Chloroform
SARA 304	Listed: Chloroform
SARA 311	Chloroform
SARA 312	Chloroform
SARA 313	Listed: Chloroform
WHMIS Canada	Class D-2A: Poisonous and infectious material- Other effects- Very toxic Class D-1B: Poisonous and infectious material- Immediate and serious effects- Toxic

16. OTHER INFORMATION

Revision	Date
Revision 1	07-03-2012
Revision 2	08/13/2013
Revision 3	08/04/2014

Disclaimer: ChemPure Brand Chemicals. ("ChemPure") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because ChemPure has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. ChemPure MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE.