

Issue Date 26-Mar-2015

Revision Date 05-Jun-2015

Version 2

1. IDENTIFICATION

Product identifier

Product Name Chloroform, ACS

Other means of identification

Product Code 1100

UN/ID no. UN1888

Synonyms Trichloromethane; Methyl trichloride; Methane trichloride

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals.

Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address

Harrell Industries, Inc.
2495 Commerce Drive
Rock Hill, SC 29730

www.harrellindustries.com

Emergency telephone number

Company Phone Number 803-327-6335

Fax Number 803-327-7808

24 Hour Emergency Phone Number 800 633-8253 (PERS)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements

Emergency Overview

Danger

Hazard statements

Harmful if swallowed

Causes skin irritation

Causes serious eye irritation

Toxic if inhaled

May cause drowsiness or dizziness

Suspected of causing cancer

Suspected of damaging fertility or the unborn child

Causes damage to organs through prolonged or repeated exposure

Very toxic to aquatic life



Danger!! May be fatal if swallowed, inhaled or absorbed through skin. Causes irritation to skin, eyes and respiratory tract. May affect central nervous system, cardiovascular system, liver and kidneys. Suspect cancer hazard. May cause cancer. Risk of cancer depends on level and duration of exposure.

Appearance colorless

Physical state liquid

Odor Characteristic ethereal odor.

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Use only outdoors or in a well-ventilated area
 Avoid release to the environment
 Wear protective gloves/protective clothing/eye protection/face protection

Vapors cause pain and irritation to eye. Splashes may cause severe irritation and possible eye damage. Causes skin irritation resulting in redness and pain. Removes natural oils. May be absorbed through the skin. Acts as a relatively potent anesthetic. Irritates respiratory tract and causes central nervous system effects, including headache and drowsiness. Exposure to higher concentrations may result in unconsciousness and even death. May cause liver injury and blood disorders. Prolonged exposure may lead to death due to irregular heart beat and kidney and liver disorders. Causes severe burning in mouth and throat, pain in the chest and vomiting. Large quantities may cause symptoms similar to inhalation.

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

Not applicable

Unknown acute toxicity

100% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Synonyms

Trichloromethane; Methyl trichloride; Methane trichloride.

Formula

CHCL3

Chemical Name	CAS No.	Weight-%
Chloroform	67-66-3	99.8

4. FIRST AID MEASURES

Description of first aid measures

General advice

Causes eye, skin, and respiratory tract irritation. May be harmful if swallowed or inhaled. May cause central nervous system depression. May cause cancer based on animal studies. May cause cardiac disturbances. This substance has caused adverse reproductive and fetal effects in animals. Light sensitive.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.

Consult a physician if irritation occurs.

Skin contact Wash off immediately with plenty of water for at least 15 minutes.

Inhalation Remove to fresh air.

Ingestion If swallowed, DO NOT INDUCE VOMITTING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Hazardous combustion products Carbon oxides. Hydrogen chloride.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials

Strong caustics and chemically active metals such as aluminum, magnesium powder, sodium, or potassium; acetone, fluorine, methanol, sodium methoxide, dinitrogen tetroxide, tert-butoxide, triisopropylphosphine.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Chloroform 67-66-3	TWA: 10 ppm	(vacated) TWA: 2 ppm (vacated) TWA: 9.78 mg/m ³ Ceiling: 50 ppm Ceiling: 240 mg/m ³	IDLH: 500 ppm STEL: 2 ppm 60 min STEL: 9.78 mg/m ³ 60 min

Appropriate engineering controls**Engineering Controls**

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/face protection**

No special technical protective measures are necessary.

Skin and body protection

No special technical protective measures are necessary.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	Characteristic ethereal odor.
Appearance	colorless	Odor threshold	No information available
Color	colorless		
Property	Values	Remarks • Method	
pH	% Volatiles by volume @ 21C/70F: 100		
Melting point / freezing point	-63.5 °C / -83 °F		
Boiling point / boiling range	62 °C / 144 °F		
Flash point	No information available		
Evaporation rate	11.6		
Flammability (solid, gas)	No information available		
Flammability Limit in Air			
Upper flammability limit:	No information available		
Lower flammability limit:	No information available		
Vapor pressure	213.3 hPa (160.0 mmHg) at 20.0 C (68.0 F)		
Vapor density	4.1		
Relative density	No information available 1.492 g/ml at 25 C (77 F) 1.48 g/ml at 25 C (77 F)		
Water solubility	No information available		
Solubility in other solvents	No information available		

Partition coefficient	log Pow: 1.97
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	119.38 g/mol
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY**Reactivity**

No data available

Chemical stability

Stable under normal conditions. pH decreases on prolonged exposure to light and air due to formation of HCl.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Light, heat, air and incompatibles.

Incompatible materials

Strong caustics and chemically active metals such as aluminum, magnesium powder, sodium, or potassium; acetone, fluorine, methanol, sodium methoxide, dinitrogen tetroxide, tert-butoxide, triisopropylphosphine.

Hazardous Decomposition Products

May produce carbon monoxide, carbon dioxide, hydrogen chloride and phosgene when heated to decomposition.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Ingestion**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Chloroform 67-66-3	= 450 mg/kg (Rat) = 695 mg/kg (Rat)	> 20 g/kg (Rabbit)	= 47702 mg/m ³ (Rat) 4 h

Information on toxicological effects**Symptoms**

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Carcinogenicity**

Chemical Name	ACGIH	IARC	NTP	OSHA
Chloroform 67-66-3	A3	Group 2A Group 2B Group 3	Reasonably Anticipated	X

Numerical measures of toxicity - Product Information**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Chloroform 67-66-3	560: 48 h Desmodesmus subspicatus mg/L EC50	71: 96 h Pimephales promelas mg/L LC50 flow-through 18: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 18: 96 h Lepomis macrochirus mg/L LC50 flow-through 300: 96 h Poecilia reticulata mg/L LC50 static	29: 48 h Daphnia magna mg/L EC50

Persistence and degradability

Bioaccumulation

Chemical Name	Partition coefficient
Chloroform 67-66-3	2

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Chloroform 67-66-3	U044	Included in waste streams: F024, F025, F039, K009, K010, K019, K020, K021, K029, K073, K116, K149, K150, K151, K158	6.0 mg/L regulatory level	U044

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Chloroform 67-66-3	Category I - Volatiles	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	Toxic waste waste number K021 Waste description: Aqueous spent antimony catalyst waste from fluoromethanes production.

Chemical Name	California Hazardous Waste Status
Chloroform 67-66-3	Toxic

14. TRANSPORT INFORMATION

DOT Regulated

UN/ID no.	UN1888
Proper shipping name	Chloroform
Hazard Class	6.1
Packing Group	III
Reportable Quantity (RQ)	10 lbs (4.54 kg)
<u>TDG</u>	Regulated
UN/ID no.	UN1888
Proper shipping name	CHLOROFORM
Hazard Class	6.1
Packing Group	III
<u>MEX</u>	Regulated
UN/ID no.	UN1888
Proper shipping name	Chloroform
Hazard Class	6.1
Packing Group	III
<u>ICAO (air)</u>	Regulated
UN/ID no.	UN1888
Proper shipping name	Chloroform
Hazard Class	6.1
Packing Group	III
<u>IATA</u>	Regulated
UN/ID no.	UN1888
Proper shipping name	Chloroform
Hazard Class	6.1
Packing Group	III
<u>IMDG</u>	Regulated
UN/ID no.	UN1888
Proper shipping name	Chloroform
Hazard Class	6.1
Packing Group	III
UN/ID no.	UN1888
Proper shipping name	CHLOROFORM
Hazard Class	6.1
Packing Group	III
<u>ADR</u>	Regulated
UN/ID no.	UN1888
Proper shipping name	CHLOROFORM
Hazard Class	6.1
Packing Group	III
<u>ADN</u>	Regulated
UN Number	UN1888
Proper shipping name	Chloroform
Hazard Class	6.1
Packing Group	III

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Chemical Name	SARA 313 - Threshold Values %
Chloroform - 67-66-3	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Chloroform 67-66-3	10 lb	X	X	X

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Chloroform 67-66-3	10 lb 1 lb	10 lb	RQ 10 lb final RQ RQ 4.54 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ

US State Regulations**California Proposition 65**

Chemical Name	California Proposition 65
Chloroform - 67-66-3	Carcinogen Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Chloroform 67-66-3	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health hazards 3	Flammability 0	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 2	Flammability 0	Physical hazards 0	Personal protection X

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Revision Note

No information available

Disclaimer

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.

End of Safety Data Sheet