Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 05, 2020

1 Identification

· **Product identifier**

· **Trade name: Chloroform, ACS Grade**
· **Product code:** CH1999
· **CAS Number:**
67-66-3

· **Recommended use and restriction on use**
· **Recommended use:** Laboratory chemicals
· **Restrictions on use:** No relevant information available.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331 USA
Tel +1 (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
· **Distributor:**
AquaPhoenix Scientific
860 Gitts Run Road,
Hanover, PA 17331
(717) 632-1291

· **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

· **Classification of the substance or mixture**

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 3	H331	Toxic if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
Carc. 2	H351	Suspected of causing cancer.
Repr. 2	H361	Suspected of damaging fertility or the unborn child.
STOT SE 3	H336	May cause drowsiness or dizziness.
STOT RE 1	H372	Causes damage to the kidneys and the liver through prolonged or repeated exposure. Route of exposure: Oral and Inhalation.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

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GHS06 GHS07 GHS08

· **Signal word:** Danger
· **Hazard statements:**
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H336 May cause drowsiness or dizziness.
H372 Causes damage to the kidneys and the liver through prolonged or repeated exposure. Route of exposure: Oral and Inhalation.
· **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 mist/vapors/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	If swallowed: Call a poison center/doctor if you feel unwell.
P330	Rinse mouth.
P302+P352	If on skin: Wash with plenty of soap and water.
P304+P340	IF INHALED: 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.
P308+P311	IF exposed or concerned: Call a poison center/doctor.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P337+P313	If eye irritation persists: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Substances**
· **CAS No. Description**
67-66-3 trichloromethane

4 First-aid measures

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· **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.
Take affected persons out into the fresh air.
· **After inhalation:**
Supply fresh air.
Provide oxygen treatment if affected person has difficulty breathing.
If experiencing respiratory symptoms: Call a poison center/doctor.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed:**
Breathing difficulty
Dizziness
Coughing
Causes eye irritation.
Causes skin irritation.
Gastric or intestinal disorders when ingested.
Disorientation
· **Danger:**
Danger of impaired breathing.
Harmful if swallowed.
Toxic if inhaled.
May cause drowsiness or dizziness.
Causes damage to the kidneys and the liver through prolonged or repeated exposure. Route of exposure: Oral and Inhalation.
Suspected of damaging fertility or the unborn child.
Suspected of causing cancer.
· **Indication of any immediate medical attention and special treatment needed:**
Medical supervision for at least 48 hours.
If necessary oxygen respiration treatment.
Later observation for pneumonia and pulmonary edema.
If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents:** No relevant information available.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**

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· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information:** Cool endangered containers with water fog.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Isolate area and prevent access.
Ensure adequate ventilation.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions**
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
· **Methods and material for containment and cleaning up**
Wipe up small spills with paper towel and discard.
For larger spills, add sawdust, chalk or other inert binding material, then sweep up and discard.
Send for recovery or disposal in suitable receptacles.
· **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:**
Prevent formation of aerosols.
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and receptacles:**
Unsuitable material for receptacle: steel.
Avoid storage near extreme heat.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with acids.
Store away from oxidizing agents.
· **Further information about storage conditions:**
Keep containers tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
· **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

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· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
67-66-3 trichloromethane	
PEL (USA)	Ceiling limit value: 240 mg/m³, 50 ppm
REL (USA)	Short-term value: 9.78* mg/m³, 2* ppm *60-min; See Pocket Guide App. A
TLV (USA)	Long-term value: 49 mg/m³, 10 ppm
EL (Canada)	Long-term value: 2 ppm IARC 2B; R
EV (Canada)	Long-term value: 49 mg/m³, 10 ppm
LMPE (Mexico)	Long-term value: 10 ppm A3

· **Exposure controls**

· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

· **Engineering controls:** Provide adequate ventilation.

· **Breathing equipment:**

Combined Organic Vapor and Particulate Respirator is recommended for use during all processing activities.

· **Protection of hands:**

Protective gloves

· **Material of gloves**
PVA gloves
Fluorocarbon rubber (Viton)

· **Not suitable are gloves made of the following materials:**
Only glove materials listed above should be used.

· **Eye protection:**

Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment**
No relevant information available.

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **Appearance:**	
Form:	Liquid
Color:	Colorless
· **Odor:**	Pleasant
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Melting point/Melting range:**	-63 °C (-81.4 °F)
· **Boiling point/Boiling range:**	62 °C (143.6 °F)
· **Flash point:**	The product is not flammable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto-ignition temperature:**	982 °C (1799.6 °F)
· **Decomposition temperature:**	Not determined.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits**	
Lower:	Not determined.
Upper:	Not determined.
· **Oxidizing properties:**	Non-oxidizing.
· **Vapor pressure at 20 °C (68 °F):**	210 hPa (157.5 mm Hg)
· **Density at 20 °C (68 °F):**	1.45-1.51 g/cm³ (12.1-12.6 lbs/gal)
· **Relative density:**	Not determined.
· **Vapor density:**	Not determined.
· **Evaporation rate:**	Not determined.
· **Solubility in / Miscibility with**	
Water at 20 °C (68 °F):	<10 g/l
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Other information**	No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.
· **Chemical stability:** Stable under normal temperatures and pressures.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions**
Toxic fumes may be released if heated above the decomposition point.
Reacts with certain metals.

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Reacts with strong oxidizing agents.
Reacts with strong acids.

· **Conditions to avoid** No relevant information available.
· **Incompatible materials** No relevant information available.
· **Hazardous decomposition products** Chlorine compounds

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
Toxic if inhaled.
Harmful if swallowed.

· **LD/LC50 values that are relevant for classification:**		
ATE (Acute Toxicity Estimate)		
Oral	LD50	800-2000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
Inhalative	LC50/4h	3 mg/l

· **Primary irritant effect:**
· **On the skin:** Irritant to skin and mucous membranes.
· **On the eye:** Causes eye irritation.
· **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**
2B

· **NTP (National Toxicology Program):**
R

· **OSHA-Ca (Occupational Safety & Health Administration):**
Substance is not listed.

· **Probable route(s) of exposure:**
Ingestion.
Inhalation.
Eye contact.
Skin contact.
· **Acute effects (acute toxicity, irritation and corrosivity):**
Toxic if inhaled.
Harmful if swallowed.
Irritating to eyes and skin.
Vapors have narcotic effect.
· **Repeated dose toxicity:** Danger of very serious irreversible effects.
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:** Suspected of causing cancer.
· **Reproductive toxicity:** Suspected of damaging fertility or the unborn child.
· **STOT-single exposure:** May cause drowsiness or dizziness.
· **STOT-repeated exposure:**
Causes damage to the kidneys and the liver through prolonged or repeated exposure. Route of exposure: Oral and Inhalation.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

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12 Ecological information

· **Toxicity**
· **Aquatic toxicity** No relevant information available.
· **Persistence and degradability** No relevant information available.
· **Bioaccumulative potential:** No relevant information available.
· **Mobility in soil:** No relevant information available.
· **Additional ecological information**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
· **Other adverse effects** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **DOT, ADR/RID/ADN, IMDG, IATA**	UN1888
· **UN proper shipping name**	
· **DOT, IMDG, IATA**	CHLOROFORM
· **ADR/RID/ADN**	1888 CHLOROFORM

· **Transport hazard class(es)**

· **DOT**

· **Class**	6.1
· **Label**	6.1

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· **ADR/RID/ADN**

· **Class**	6.1 (T1)
· **Label**	6.1

· **IMDG, IATA**

· **Class**	6.1
· **Label**	6.1
· **Packing group**	
· **DOT, ADR/RID/ADN, IMDG, IATA**	III
· **Environmental hazards**	Not applicable.
· **Special precautions for user**	Warning: Toxic substances
· **Hazard identification number (Kemler code):**	60
· **EMS Number:**	F-A,S-A
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Hazardous substance:**	10 lbs, 4.54 kg

15 Regulatory information

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

· **United States (USA)**

· **SARA**

· **Section 302 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is listed.

· **TSCA (Toxic Substances Control Act)**

· **Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

20000

· **Proposition 65 (California)**

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· **Chemicals known to cause cancer:**
Substance is listed.

· **Chemicals known to cause developmental toxicity for females:**
Substance is not listed.

· **Chemicals known to cause developmental toxicity for males:**
Substance is not listed.

· **Chemicals known to cause developmental toxicity:**
Substance is listed.

· **EPA (Environmental Protection Agency):**
B2, L, NL

· **IARC (International Agency for Research on Cancer):**
2B

· **Canadian Domestic Substances List (DSL):**
Substance is not listed.

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.

· **Abbreviations and acronyms:**
ADR: 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
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
OSHA: Occupational Safety & Health Administration
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Carc. 2: Carcinogenicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

· **Sources**
Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

SDS Prepared by:
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1305 North Florida Avenue
Tampa, Florida USA 33602-2902

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