



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Chloroform**

Chemical formula : C-H-Cl₃

Synonyms : Trichloromethane; Methane Trichloride; R 20; Freon 20; Methyl Trichloride; Trichloroform; R 20 (Refrigerant); Methenyl Trichloride

Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Chloroform	67-66-3	> 99%
Stabilizers		< 0.1%

3. Hazards Identification

Emergency Overview

May cause respiratory tract irritation, skin irritation, eye irritation, liver damage, central nervous system depression, kidney damage, suspect cancer hazard (in animals).

Potential Health Effects

Inhalation : Irritation, changes in blood pressure, nausea, vomiting, difficulty breathing, irregular heartbeat, headache, drowsiness, dizziness, disorientation, hyperactivity, loss of coordination, dilated pupils, blood disorders, heart damage, kidney damage, liver damage, convulsions, unconsciousness, coma.

Eye contact : Irritation, visual disturbances.

Skin contact : Irritation, changes in blood pressure, nausea, vomiting, difficulty breathing, irregular heartbeat, headache, drowsiness, dizziness, disorientation, hyperactivity, loss of coordination, dilated pupils, blood disorders, heart damage, kidney damage, liver damage, convulsions, unconsciousness, coma.

Ingestion : Irritation, changes in blood pressure, nausea, vomiting, diarrhea, stomach pain, chest pain, difficulty breathing, muscle cramps, dilated pupils, bluish skin color, kidney damage, liver damage, unconsciousness.

Chronic Health Hazard : None.

4. First Aid Measures

General advice : None.

Eye contact : Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

- Skin contact : Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.
- Ingestion : For ingestion, consider gastric lavage. Consider oxygen. Avoid epinephrine. Get medical attention immediately.
- Inhalation : If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

5. Fire-Fighting Measures

- Suitable extinguishing media : Regular dry chemical, regular foam, water.
Large fires: Use regular foam or flood with fine water spray.
- Specific hazards : Negligible fire hazard.
- Fire fighting : Move container from fire area if it can be done without risk. Fight large fires from a protected location or safe distance. Stay away from the ends of tanks. Dike for later disposal. Do not scatter spilled material with high-pressure water streams.

6. Accidental Release Measures

- Personal precautions : None.
- Environmental precautions : Soil release – Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Dike for later disposal. Absorb with sand or other non-combustible materials. Collect with absorbent into suitable container.
Water release – Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Remove trapped material with suction hoses. Collect spilled material using mechanical equipment. Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.
- Methods for cleaning up : Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Small dry spills: Move containers away from spill to a safe area. Large spills: Dike for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry. Ventilate closed spaces before entering. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800) 424-8802 (USA) or (202) 426-2675 (USA).
- Additional advice : None.

7. Handling and Storage

Handling

Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

Storage

Store in accordance with all current regulations and standards. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355.30). Store in a cool, dry place. Store in a well-ventilated area. Keep separated from incompatible substances.

8. Exposure Controls / Personal Protection

Exposure limits

- 50 ppm (240 mg/m³) OSHA ceiling
- 2 ppm (9.78 mg/m³) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)
- 10 ppm ACGIH TWA
- 2 ppm (9.78 mg/m³) NIOSH recommended STEL 60 minute(s)

Engineering measures

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal protective equipment

- Respiratory protection : The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.
At any detectable concentration – Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator with a full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.
Escape – Any air-purifying respirator with a full facepiece and an organic vapor canister. Any appropriate escape-type, self-contained breathing apparatus.
For unknown concentrations or immediately dangerous to life or health – Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.
Any self-contained breathing apparatus with a full facepiece.
- Hand protection : Wear appropriate chemical resistant gloves.
- Eye protection : Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
- Skin and body protection : Wear appropriate chemical resistant clothing.

9. Physical and Chemical Properties

- Form : Liquid.
- Color : Colorless.
- Odor : Sweet odor and taste.
- Molecular weight : 119.38
- Vapor pressure : 160 mmHg @ 20 C
- Vapor density : 4.12 (air = 1)
- Specific gravity : 1.4832 (water = 1)
- Boiling point : 144 F (62 C)
- Freezing point : -83 F (-64 C)
- Water solubility : 0.82% @ 20 C

10. Stability and Reactivity

- Stability : Stable at normal temperatures and pressure.
- Conditions to avoid : Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.
- Materials to avoid : Metals, combustible materials, oxidizing materials, halogens, bases.
- Hazardous decomposition products : Thermal decomposition products: oxides of chlorine, carbon, phosgene, chlorine and halides.

11. Toxicological Information

Toxicity data : 6000 mg/m³/6 hour(s) inhalation-rat LC50; > 20 gm/kg skin-rabbit LD50; 695 mg/kg oral-rat LD50
Irritation data : 10 mg/24 hour(s) open skin-rabbit mild; 500 mg/24 hour(s) skin-rabbit mild; 148 mg eyes-rabbit; 20 mg/24 hour(s) eyes-rabbit moderate
Carcinogen status : NTP: Anticipated Human Carcinogen; IARC: Human Inadequate Evidence, Animal Sufficient Evidence, Group 2B; ACGIH: A3 – Animal Carcinogen

Acute Health Hazard

Ingestion : Moderately toxic.
Inhalation : Moderately toxic.
Skin : Not available.

12. Ecological Information

Ecotoxicity Data

Fish toxicity : 66800 ug/L 96 hour(s) LC50 (mortality) Rainbow trout, Donaldson trout (Oncorhynchus mykiss)
Invertebrate toxicity : 32000 ug/L 96 hour(s) NOEC (mortality) Pink shrimp (America) (Penaeus duorarum)
Algal toxicity : > 32000 ug/L 48 hour(s) (Population Growth) Cryptomonad (Chilomonas paramecium)
Other toxicity : 270 ug/L 7 hour(s) EC50 (Teratogenesis) Spring peeper (Hyla crucifer)

Fate and Transport

Bioconcentration : 690 Ci/mol 6 hour(s) BCF (Residue) Green algae (Selenastrum capricornutum) 13.9 Ci/mol

13. Disposal Considerations

Waste from residues / unused products : Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U044. Hazardous Waste Number(s): D022. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level- 6.0 mg/L.
Contaminated packaging : Return cylinder to supplier.

14. Transport Information

DOT (US only)

Proper shipping name : Chloroform
Class : 6.1, Packing Group III
UN/ID No. : UN1888
Labeling : Poisonous

Further information

Cylinders should be transported in a secure upright position in a well ventilated truck.

15. Regulatory Information

OSHA Process Safety (29 CFR 1910.119) Hazard Class(es)

Not regulated.

TCSA

Material is listed in TSCA inventory.

SARA Title III Section 302 Extremely Hazardous Substances (40 CFR 355.30)
10,000 LBS TPQ

SARA Title III Section 304 Extremely Hazardous Substances (40 CFR 355.40)
10 LBS RQ

SARA Title III SARA Sections 311/312 Hazardous Categories (40 CFR 370.21)

Acute: Yes
Chronic: Yes
Fire: No
Reactive: No
Sudden Release: No

SARA Title III Section 313 (40 CFR 372.65)
Chloroform.

16. Other Information

Prepared by : Specialty Gases of America, Inc.
For additional information, please visit our website at www.americangasgroup.com.