# MATERIAL SAFETY DATA SHEET, CHLOROFORM

## Section 1 | Product and Company Identification

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**Material Identification**  
**Product Name:** CHLOROFORM  
**Chemical Name:** Trichloromethane; Methyl trichloride; Methane trichloride  
**CAS Number:** 67-66-3  
**Product Use:** Laboratory Reagent. Solvent adhesive for some plastics.

## Section 2 | Composition/Information on Ingredients

**Chemical Formula:** CHCl₃

## Section 3 | Hazards Identification

**Inhalation**: Acts as a relatively potent aesthetic. Irritates respiratory tract and causes central nervous system effects, including headache, drowsiness, and dizziness. 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 heartbeat and kidney and liver disorders.  
**Ingestion**: Causes severe burning in mouth and throat, pain in the chest and vomiting. Large quantities may cause symptoms similar to inhalation.  
**Skin Contact**: Causes skin irritation resulting in redness and pain. Removes natural oils. May be absorbed through skin.
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Section 3 | Hazards Identification (Continued)

**Eye Contact:** Vapours causes pain and irritation to eyes. Splashes may cause severe irritation and possible eye damage.

**Chronic Exposure:** Prolonged or repeated exposure to vapours may cause damage to the nervous system, the heart and the liver and kidneys. Contact with liquid has defatting effect and may cause chronic irritation of skin with cracking and drying, and corresponding dermatitis. Chloroform is a suspected human carcinogen.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

Section 4 | First Aid Measures

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

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

**Skin Contact:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician: Because kidney and liver effects may be delayed, keep victim under observation for 24 to 48 hr. Administration of fluids may help to prevent kidney failure. Obtain blood glucose, urinalysis, liver function tests, chest x-ray, and monitor cardiac function and fluid/electrolyte status. Monitor liver and kidney function for 4 to 5 days after exposure. Disulfiram, its metabolites, and a high carbohydrate diet appear to protect somewhat against chloroform toxicity. Do not give adrenalin! Tests may show increased bilirubin, ketosis, lowered blood prothombin, and fibrogen.

Section 5 | Fire Fighting Measures

**Flash ignition temperature:** Slight fire hazard when exposed to high heat; otherwise, practically not flammable.

**Unusual fire, explosion hazards:** Sealed containers may rupture when heated.

**Special fire fighting instructions:** In the event of fire, wear full protective clothing and approved self contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

**Extinguishing media:** Use any means suitable for extinguishing surrounding fire.
### Section 6  Accidental Release Measures

**Spill or release:** Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g. vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as sawdust. Do not flush to stormwater system. If a leak or spill has not ignited, use water spray to disperse the vapours, to protect personnel attempting to stop leak, and to flush spills away from exposures.

### Section 7  Handling and Storage

Keep in a tightly closed light-resistant container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Wear special protective equipment (Sec. 8) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in workplace. Containers of this material may be hazardous when empty since they retain product residues (vapours, liquid); observe all warnings and precautions listed for the product. Chloroform odour threshold: 250 mg/m3. The odour threshold only serves as a warning of exposure; not smelling it does not mean you are not being exposed.

### Section 8  Exposure Controls/Personal Protection

**Eye:** Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

**Skin:** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Ventilation:** Local exhaust at processing equipment to assure that particulate levels are kept at recommended levels.

**Respirator:** A system of local and/or general exhaust is recommended. If the exposure level is high, a half-face organic vapour respirator may be worn. A full-face piece organic vapour respirator may also be worn.

### Section 9  Physical and Chemical Properties

**Appearance:** Clear, colourless liquid.

**Odour:** Characteristic ethereal odour.

**Solubility:** 0.8g/100g water @ 20C (68F).

**Specific Gravity:** 1.48 @ 20C/4C
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Section 9  Physical and Chemical Properties (Continued)

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<th>Property</th>
<th>Value</th>
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<td>% Volatiles by volume @ 21C (70F)</td>
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<tr>
<td>Boiling Point</td>
<td>62C (144F)</td>
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<tr>
<td>Melting Point</td>
<td>-63.5C (-83F)</td>
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<tr>
<td>Vapour Density (Air=1)</td>
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<tr>
<td>Vapour Pressure (mm Hg)</td>
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<tr>
<td>Evaporation Rate (BuAc=1)</td>
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</tr>
</tbody>
</table>

Section 10  Stability and Reactivity

**Stability:** Stable under ordinary conditions of use and storage. pH decreases on prolonged exposure to light and air due to formation of HCl.

**Hazardous Decomposition Products:** May produce carbon monoxide, carbon dioxide, hydrogen chloride and phosgene when heated to decomposition. Incompatibilities: Strong caustics and chemically active metals such as aluminium, magnesium powder, sodium, or potassium; acetone, fluorine, methanol, sodium methoxide, dinitrogen tetroxide, tert-butoxide, triisopropylphosphine.

**Conditions to Avoid:** Light, heat, air and incompatibles.

Section 11  Toxicological Information

**Chronic toxicity:** Investigated as a tumorigenic, mutagen, and reproductive effector.

**Carcinogenicity:** Yes

Section 12  Ecological Information

**Environmental Fate:** When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released to water, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life between 1 and 10 days. This material has a log octanol-water partition coefficient of less than 3.0. This material is not expected to significantly bioaccumulate. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material may be moderately degraded by photolysis. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material is expected to have a half-life of greater than 30 days.

**Environmental Toxicity:** This material is not expected to be toxic to aquatic life.
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Section 13 | Disposal Considerations

Spill or release: Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to an approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14 | Transport Information

Hazard class: 6.1
Shipping name: CHLOROFORM

Section 15 | Regulatory Information

Australian Hazchem Code: 2Z
Poison Schedule: S6

Section 16 | Other Information

Prepared by: Steven Cook
Issued: 1 September 2009

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