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PO NBR: 492870 136866  
OFORM

CHLOROFORM

Material Safety Data Sheet  
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Mallinckrodt Chemical, Inc.  
P.O. Box 800  
Paris, Kentucky 40362  
Emergency Telephone Number  
314-539-1600

Effective Date: 11-27-89 Supersedes 04-06-89

PRODUCT IDENTIFICATION:

Synonyms: Trichloromethane

Formula CAS No.: 67-66-3

Molecular Weight: 119.38

Hazardous Ingredients: Chloroform

Chemical Formula: CHCl3

PRECAUTIONARY MEASURES

DANGER! MAY BE FATAL IF SWALLOWED. INHALED OR ABSORBED THROUGH SKIN.  
POSSIBLE CANCER HAZARD BASED ON TESTS WITH LABORATORY ANIMALS. EXPOSURE MAY  
CREATE A CANCER RISK. CAUSES IRRITATION.

Avoid breathing vapor.  
Avoid contact with eyes, skin and clothing.  
Keep container closed.  
Use with adequate ventilation.  
Wash thoroughly after handling.

EMERGENCY FIRST AID

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If swallowed, induce vomiting immediately by giving two glasses of water, or  
milk if available and sticking finger down throat. Never give anything by mouth  
to an unconscious person. If inhaled, remove to fresh air. If not breathing,  
give artificial respiration. If breathing is difficult, give oxygen. In case of  
contact, immediately flush eyes or skin with plenty of water for at least 15  
minutes. In all cases call a physician.  
SEE SECTION 5.

DOT Hazard Class: PSN: Chloroform Class: 6.1 ID#: UN1888 PG II

Physical Data  
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SECTION 1  
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Appearance: Clear colorless liquid.

Odor: Characteristic, ethereal.

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

Boiling Point: 61.3 C (142 F). Vapor Density (Air=1): 4.1

Melting Point: -63.5 C (-82 F). Vapor Pressure (mm Hg): 100 @ 10.4 C (51 F).



Specific Gravity: 1.49

Evaporation Rate: (BuAc=1): 11.6

MFPA Ratings: Health: 2

Flammability: 0 Reactivity: 0

Fire and Explosion

## SECTION 2

Information

Fire:

Slight fire hazard when exposed to high heat; otherwise, practically not flammable.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Reactivity Data

## SECTION 3

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Toxic gases and vapors such as hydrogen chloride, chlorine, phosgene, and carbon monoxide may be released upon heating to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

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

Leak/Spill Disposal Information

## SECTION 4

Ventilate area of leak or spill. Remove all sources of ignition. Clean-up personnel require protective clothing and respiratory protection from vapors. Contain and recover liquid when possible. Collect as hazardous waste and atomize in a suitable RCRA approved combustion chamber, or absorb with vermiculite, dry sand, earth or similar material for disposal as hazardous waste in a RCRA approved facility. Do not flush to sewer. Reportable quantity (RQ) (CMA/CERCLA) : 10 lbs. Ensure compliance with local, state and federal regulations.

Health Hazard Information

## SECTION 5

A. Exposure/Health Effects

Inhalation:

Acts as a relatively potent anesthetic. Irritates respiratory tract and may cause headache,



drowsiness, vomiting, dizziness, and unconsciousness. Prolonged exposure may lead to death due to heart arrhythmias and kidney and liver disorders.

**Ingestion:**

Causes severe burning in mouth and throat, pain in the chest and vomiting. Loss of consciousness.

**Skin Contact:**

May cause skin irritation resulting in redness and pain. Removes natural oils.

**Eye Contact:**

Causes pain and irritation of conjunctiva.

**Chronic Exposure:**

Prolonged or repeated exposure to vapors may cause damage to liver and kidneys. Contact with liquid has defatting effect and may cause chronic irritation of skin with cracking and drying, and corresponding dermatitis. May cause tumor formation.

**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.

**B. FIRST AID**

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion:**

If swallowed, induce vomiting immediately by giving two glasses of water, or milk if available and sticking finger down throat. Call a physician immediately. Never give anything by mouth to an unconscious person.

**Skin Exposure:**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician immediately.

**Eye Exposure:**

Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

**C. TOXICITY**

(RTECS, 1986)

Oral rat LD50: 908 mg/kg. Irritation data: skin rabbit 10 mg/24H open mild; eye rabbit: 148 mg. Mutation data references cited. Reproductive effects references cited. Tumorigenic data references cited. Carcinogenic review: Animal positive IARC 20, 401, 79. Listed as a carcinogen by the National Toxicology Program (NTP).

**Occupational Control Measures**

**SECTION 6**

**Airborne Exposure Limits:**

-OSHA Permissible Exposure Limit (PEL): 2 ppm  
(TWA)  
-ACGIH Threshold Limit Value (TLV): 10 ppm  
(TWA), listed as A2 suspected human carcinogen



## Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust is preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

## Personal Respirators (NIOSH Approved)

If the TLV is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or self-contained breathing apparatus.

## Skin Protection:

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

## Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Contact this lenses should not be worn when working with material. Maintain eye wash fountain and quick-drench facilities in work area.

## Storage and Special Information

SECTION 7  
Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities.

Keep in a tightly closed container.

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## Addendum to Material Safety Data Sheet REGULATORY STATUS

This Addendum Must Not Be  
Detached from the MSDS  
Identifies SARA 313 substance(s)  
Any copying or redistribution of the MSDS  
must include a copy of this addendum

## Hazard Categories for SARA Section 311/312 Reporting

Acute      Chronic      Fire      Pressure      Reactive



Product or Components  
of Product: -----

SARA EHS  
Sec. 302  
TPQ  
Name  
List  
Chemicals  
Chemical  
Category  
SARA Sec. 313

CERCLA  
Sec. 103  
RQ lbs  
RCRA  
Sec. 261.33

CHLOROFORM (67-66-3)

10 10,000 Yes

No

No

No

SARA Section 302 EHS RQ:  
Reportable quantity of Extremely Hazardous Substance, listed at 40 CFR 355.

SARA Section 302 EHS TPQ:  
Threshold Planning quantity of Extremely Hazardous substance. An asterisk (\*) following a Threshold Planning quantity signifies that if the material is a solid and has a particle size equal to or larger than 100 micrometers, the Threshold Planning quantity = 10,000 LBS.

SARA Section 313 Chemicals:  
Toxic Substances subject to annual release reporting requirements  
listed at 40 CFR 372.65.

CERCLA Sec. 103:  
Comprehensive Environmental Response, Compensation and Liability Act (Superfund)  
Releases to air, land or water of these hazardous substances which exceed the  
Reportable quantity (RQ) must be reported to the National Response Center,  
(800-424-8802); Listed at 40 CFR 302.4

RCRA:  
Resource Conservation and Recovery Act. Commercial chemical product wastes  
designated as acute hazards or toxic under 40 CFR 261.33

OFORM \*\*\* END OF DOCUMENT \*\*\* SHEET NBR: OFORM CHLOROFORM CAT NBR: MK444050



[illegible]

FISHER SCIENTIFIC HAS A COMPLETE LINE OF SAFETY PRODUCT AND INFORMATION FOR THE LABORATORY. FISHER CONTACT YOUR LOCAL FISHER BRANCH FOR FILMS, BROCHURES, CATALOGS, AND PRODUCTS.

IF NAME AND/OR ADDRESS  
HAVE CHANGED, CONTACT  
YOUR FISHER SALES  
REPRESENTATIVE OR YOUR  
LOCAL FISHER BRANCH.

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