

32614 - Chloroform

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 07/14/2003

Reviewed on 06/05/2003

• 1 Identification of substance:

◆ Product details:

◆ Product name: Chloroform

◆ Stock number: 32614

◆ Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Emergency Phone: (978) 521-6300
CHEMTREC: (800) 424-9300
Web Site: www.alfa.com

◆ Information Department: Health, Safety and Environmental Department

◆ Emergency information:

During normal hours the Health, Safety and Environmental Department.
After normal hours call Chemtrec at (800) 424-9300.

• 2 Composition/Data on components:

◆ Chemical characterization:

_____ Description: (CAS#)

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Chloroform (CAS# 67-66-3); 100%

◆ Identification number(s):

◆ EINECS Number: 200-663-8

◆ EU Number: 602-006-00-4

• 3 Hazards identification

◆ Hazard description: Xn Harmful

◆ Information pertaining to particular dangers for man and environment

R 20/22 Harmful by inhalation and if swallowed.

R 38 Irritating to skin.

R 40 Limited evidence of a carcinogenic effect.

R 48 Danger of serious damage to health by prolonged exposure.

◆ Classification system

◆ HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

Health (acute effects) = 1

Flammability = 1

Reactivity = 1

• 4 First aid measures

◆ After inhalation

Supply fresh air. If required, provide artificial respiration.

Keep patient warm.

Seek immediate medical advice.

◆ After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

◆ After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

◆ **After swallowing** Seek immediate medical advice.

• 5 Fire fighting measures

◆ **Suitable extinguishing agents**

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

◆ **Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

• 6 Accidental release measures

◆ **Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

◆ **Measures for environmental protection:**

Do not allow material to be released to the environment without proper governmental permits.

◆ **Measures for cleaning/collecting:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

◆ **Additional information:**

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**

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◆ Information for safe handling:

Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.

◆ Information about protection against explosions and fires:

No special measures required.

◆ Storage

◆ Requirements to be met by storerooms and receptacles:

No special requirements.

◆ Information about storage in one common storage facility:

Store away from oxidizing agents.

◆ Further information about storage conditions:

Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

• 8 Exposure controls and personal protection

◆ Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

Chloroform	ppm
ACGIH TLV	10
Belgium TWA	10
France TWA	5, 50-STEL
Germany TWA	10
Netherlands TWA	10
Switzerland TWA	10, 20-STEL
United Kingdom TWA	2
Russia TWA	50

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Denmark TWA	2
Finland TWA	10, 20-STEL
Hungary TWA	10 mg/m3
Poland TWA	50 mg/m3
Sweden TWA	2, 5-STEL
USA	50-STEL

◆ **Additional information:** No data

◆ **Personal protective equipment**

◆ **General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

◆ **Breathing equipment:**

Use suitable respirator when high concentrations are present.

◆ **Protection of hands:** Impervious gloves

◆ **Eye protection:** Safety glasses

◆ **Body protection:** Protective work clothing.

• **9 Physical and chemical properties:**

◆ **General Information**

◆ **Form:** Fluid

◆ **Color:** Colorless

◆ **Odor:** Characteristic

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<u>Method</u>	<u>Value/Range</u>	<u>Unit</u>
◆ Change in condition		
◆ Melting point/Melting range:	-63.5	° C
◆ Boiling point/Boiling range:	61.26	° C
◆ Sublimation temperature / start:	Not determined	
◆ Flash point:	Not applicable	
Not determined		
◆ Ignition temperature:	982	° C
◆ Decomposition temperature:	Not determined	
◆ Danger of explosion:		
Product does not present an explosion hazard.		
◆ Explosion limits:		
◆ Lower:	Not determined	
◆ Upper:	Not determined	
◆ Vapor pressure:	at 20 ° C	210 hPa

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◆ Density: at 20 ° C 1.492 g/cm³

◆ Solubility in / Miscibility with

◆ Water: Not miscible or difficult
to mix

◆ Viscosity:

◆ dynamic: at 20 ° C 0.56 mPas

• 10 Stability and reactivity

◆ Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

◆ Materials to be avoided:

Oxidizing agents
Bases
Alkali metals

◆ Dangerous reactions: Reacts with certain metals

◆ Dangerous products of decomposition:

Phosgene
Hydrogen chloride (HCl)
Carbon monoxide and carbon dioxide
Chlorine

• 11 Toxicological information

◆ Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral: LD50: 820 mg/kg (gpg)
LD50: 36 mg/kg (mus)

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LD50: 908 mg/kg (rat)

Dermal: LD50: >20000 mg/kg (rbt)

Inhalative: LC50/4H: 47702 mg/m³/4H (rat)

◆ **Primary irritant effect:**

◆ **on the skin:** Irritant to skin and mucous membranes.

◆ **on the eye:** Irritating effect.

◆ **Sensitization:** No sensitizing effects known.

◆ **Subacute to chronic toxicity:**

Chloroform is a well known anesthetic, that use now having been abandoned due to its toxic effects. It's vapor and mist is irritating to the eyes, mucous membranes and upper respiratory tract. The liquid causes skin irritation and may be absorbed through the skin. Exposure may cause dizziness, nausea, headache, vomiting, gastrointestinal disturbances, nervous system disturbances, and damage to the liver, kidneys, cardiovascular system, central nervous system or blood.

◆ **Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

EPA-B2: Probable human carcinogen, sufficient evidence from animal studies; inadequate evidence or no data from epidemiologic studies.

IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.

NTP-2: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.

ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

• **12 Ecological information:**

◆ General notes:

Do not allow material to be released to the environment without proper governmental permits.

• 13 Disposal considerations

◆ Product:

◆ Recommendation

Consult state, local or national regulations to ensure proper disposal.

◆ Uncleaned packagings:

◆ Recommendation:

Disposal must be made according to official regulations.

• 14 Transport information

◆ DOT regulations:

◆ Hazard class: 6.1

◆ Identification number: UN1888

◆ Packing group: III

◆ Hazardous substance: 10 lbs, 4.54 kg

◆ Proper shipping name (technical name):

Chloroform

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- ◆ Land transport ADR/RID (cross-border)

- ◆ ADR/RID class: 6.1 Toxic substances

- ◆ Item: 15c

- ◆ Danger code (Kemler): 60

- ◆ UN-Number: 1888

- ◆ Description of goods: Chloroform

- ◆ Maritime transport IMDG:

- ◆ IMDG Class: 6.1

- ◆ Page: 6103

- ◆ UN Number: 1888

- ◆ Packaging group: III

- ◆ EMS Number: F-A, S-A

- ◆ MFAG: 340

- ◆ Proper shipping name: Chloroform

- ◆ Air transport ICAO-TI and IATA-DGR:

- ◆ ICAO/IATA Class: 6.1

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- ◆ UN/ID Number: 1888
- ◆ Packaging group: III
- ◆ Proper shipping name: Chloroform

- 15 Regulations

- ◆ Product related hazard informations:

- ◆ Hazard symbols: Xn Harmful

- ◆ Risk phrases:

- 20/22 Harmful by inhalation and if swallowed.
- 38 Irritating to skin.
- 40 Limited evidence of a carcinogenic effect.
- 48 Danger of serious damage to health by prolonged exposure.

- ◆ Safety phrases: 36/37 Wear suitable protective clothing and gloves.

- ◆ National regulations

- All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
- This product contains a chemical known to the state of California to cause cancer or reproductive toxicity.

- ◆ Information about limitation of use:

For use only by technically qualified individuals.
This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

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• 16 other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

◆ **Department issuing MSDS:** Health, Safety and Environmental Department.

◆ **Contact:** Darrell R. Sanders