

Revision: 2.1

Revision date:

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Section 1. Identification

1.1 Product Identifier 0167

Product Name	CHLOROFORM
CAS Number	67-66-3
REACH Registration No	A registration number is not available as the substance or its uses are exempt, the annual tonnage does not require a registration or the registration is envisaged for a later date.
Molecular Formula	CHCl_3 , $n=119.38$

1.2 Relevant identified uses of the substance or mixture & uses advised against

Uses of Material Chemical for industrial and laboratory use. Not suitable for domestic use.

1.3 Supplier Vickers Laboratories Ltd



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1.4 Emergency Telephone (08:00-16:30) +44(0) 113 2362811 (24hr) 112 (Have this document to hand)

Section 2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to regulation 1272/2008/EC

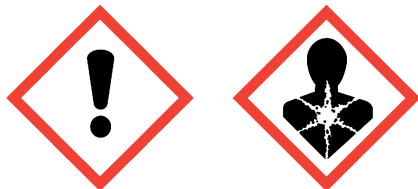
Acute toxicity, category 4 (oral)	H302: Harmful if swallowed.
Skin corrosion/irritation, category 2	H315: Causes skin irritation.
Acute toxicity, category 4 (inhalation)	H332: Harmful if inhaled.
Serious eye damage/irritation, category 2	H319: Causes serious eye irritation.
Carcinogenicity, category 2	H351: Suspected of causing cancer.
Reproductive toxicity, category 2	H361: Suspected of damaging fertility or the unborn child.
Spec target organ tox - single, category 3	H336: May cause drowsiness or dizziness.
Spec target organ tox - repeat, category 2	H373: May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labelling according to regulation 1272/2008/EC

Signal word Warning

Hazard Pictograms



Hazard Statements Harmful if inhaled. Harmful if swallowed. May cause drowsiness or dizziness. Causes skin irritation. Causes serious eye irritation. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements Do not handle until all safety precautions have been read and understood. Do not breathe dust / fume / gas / mist / vapours / spray. Use personal protective equipment as required. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. **IF exposed or concerned:** Get medical advice/attention. Store in a well ventilated place. Keep container tightly closed.

Section 3. Composition

3.1 Substances

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
Chloroform	67-66-3	200-6638		>99.5%	Acute Tox. 4 (O),Skin Irrit. 2,Acute Tox. 4 (I),Eye Irrit. 2,Carc. 2,Repr. 2,STOT SE 3 (D),STOT RE 2

Section 4. First Aid

4.1 Description of first aid measures

Eyes	Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.
Skin	Thoroughly wash off skin with soap and water. Remove contaminated clothing immediately and wash before re-use. Unless contact has been slight OBTAIN MEDICAL ATTENTION
Inhalation	Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.
Ingestion	If conscious give plenty of water to drink. Do not induce vomiting. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.
Personal protection for first aiders	Wear protective gloves / eye protection.

4.2 Most important symptoms and effects, both acute & delayed.

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed.

No further relevant information available.

Section 5. Fire Fighting

5.1 Extinguishing media

Extinguishing Media	Consider what other flammable materials are present and act accordingly. Use water spray to keep fire exposed containers cool.
Unsuitable Media	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards	May evolve toxic fumes if involved in a fire.
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5.3 Advice for firefighters

Advice for firefighters	Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus.
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Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so. Beware : vapour is heavier than air and will tend to accumulate at low spots.

6.2 Environmental precautions

Environmental Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.

6.3 Methods and material for containment and cleaning up

Major Spillage Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with detergent and copious amounts of water.

Minor Spillage Contain and absorb on inert material. Transfer absorbent to container for removal. Allow solvent to evaporate in remote area, then dispose of absorbent as solid chemical waste. Wash area down with detergent and copious amounts of water.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

Section 7. Storage & Handling

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.

Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage . Protect from direct sunlight. Protect against moisture to prevent decomposition and corrosion.

7.3 Specific end use(s)

See section 1.2.

Section 8. Workplace Exposure & Personal Protection

8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits			
			Long Term (8hr TWA)		Short Term 15min period)	
Chloroform	67-66-3	>99.5%	2.0 ppm	-	9.9 ppm	-

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

8.2 Exposure controls

Respiratory Protection Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge organic vapour respirator, or use self contained breathing apparatus.

Hand Protection Use solvent resistant gloves.

Eye Protection Use tightly fitting chemical splash proof glasses or goggles.

Skin Protection Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

Special Hazards No special precautions required.

Section 9. Physical & Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance Clear colourless liquid.

Odour Pleasant sweet odour.

pH Not applicable

Boiling Point 62°C

Melting Point	-64°C
Flash Point	Not applicable
Upper Flammable Limit	Not applicable
Lower Flammable Limit	Not applicable
Auto Ignition	Not applicable
Explosive Properties	No.
Oxidising Properties	No.
Vapour Pressure	159mmHg @ 20°C
Relative Density	1.4850
Water Solubility	0.82%

9.2 Other information

No data available.

Section 10. Stability & Reactivity

10.1 Reactivity	No data available.
10.2 Chemical Stability	Stable under normal conditions
10.3 Possibility of hazardous reactions	No data available.
10.4 Conditions to Avoid	Hot surfaces and naked flames.
10.5 Incompatible Materials	May react violently with sodium, magnesium and other alkali and alkaline earth metals. Prolonged contact with aluminium and light alloys may cause gas generation and pressure build up.
10.6 Hazardous Decomposition Products	Contact with red hot surfaces, sparks or naked flames may generate toxic acid fumes of phosgene and hydrogen chloride.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Eyes	Both the vapour and liquid will, irritate the eyes and can cause conjunctivitis. More irritating to the eyes than most common solvents.
Skin	Repeated or prolonged contact may defat the skin producing irritation and dermatitis. Unlikely to be absorbed across the skin in harmful amounts.
LD50 Skin	Not available
Ingestion	Causes immediate irritation of the mouth, throat and gastro-intestinal tract. Ingestion may cause liver and kidney damage.
LD50 Oral	908mg/kg Rat
Inhalation	Large amounts may cause sensitive individuals to cough. Prolonged exposure to vapour concentrations above the occupational exposure limits may result in unconsciousness and can cause cardiac sensitisation which may prove suddenly fatal. Liver and kidney damage may also occur.
LD50 Inhalation	Not available
TCLo	Not available
Carcinogenicity	Carcinogen category: 2 Has been found to be carcinogenic to rats and mice. It is suspected as a long term carcinogen in man but evidence is inconclusive.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	Chloroform is teratogenic to rats and mice, and highly foetotoxic in rat inhalation studies. Has been implicated in similar disorders in humans. Pregnant and nursing mothers should avoid contact.
Other Information	Acts as an anaesthetic. First symptoms of lightheadedness occur within a few minutes at 1000ppm.

Section 12. Ecological

12.1 Toxicity	Unlikely to bio-accumulate. High concentrations are toxic to aquatic life.
LC50 Algal	Not available
LC50 Crustacea	Not available
LC50 Fish	Not available
12.2 Persistence and degradability	No data available.

12.3	Bioaccumulative potential	No data available.
12.4	Mobility in soil	No data available.
12.5	Results of PBT & vPvB assessment	Assessment not required.
12.6	Other adverse effects	None known at present.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal Methods	Dispose of in a licensed incinerator for organic solvents. Do not dispose of as domestic waste.
Contaminated Packaging	Use a licensed waste disposer.

Section 14. Transport Information

14.1	UN Number	1888
14.2	Proper Shipping Name	Chloroform
14.3	Transport classes	
	UN classification	6.1
	Subsidiary hazard(s)	None
	Transport category	2
	ADR Hazard ID	60
	Tunnel Restriction Code	E
14.4	Packing Group	III
14.5	Environment hazards	See section 12.
14.6	Special precautions for user	No special precautions required.
14.7	Transport in bulk	Not transported in bulk.



Section 15. Regulatory Information

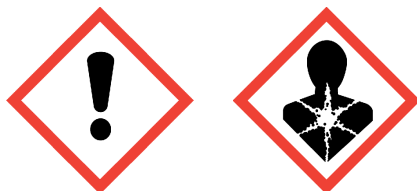
15.1 Safety, health and environment regulations specific for substance/mixture.

Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Acute toxicity, category 4 (oral); Skin corrosion/irritation, category 2; Acute toxicity, category 4 (inhalation); Serious eye damage/irritation, category 2; Carcinogenicity, category 2; Reproductive toxicity, category 2; Spec target organ tox - single, category 3; Spec target organ tox - repeat, category 2

Signal word Warning

Hazard Pictograms



Hazard Statements H332, H302, H336, H315, H319, H351, H361, H373

Harmful if inhaled. Harmful if swallowed. May cause drowsiness or dizziness. Causes skin irritation. Causes serious eye irritation. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements P202, P260, P281, P305+P351+P338, P308+P313, P403+P233

Do not handle until all safety precautions have been read and understood. Do not breathe dust / fume / gas / mist / vapours / spray. Use personal protective equipment as required. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. IF exposed or concerned: Get medical advice/attention. Store in a well ventilated place. Keep container tightly closed.

15.2 Chemical safety assessment

Assessment not required.

Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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