

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

<b>Product Description:</b>	<b>Chloroform, ACS</b>
<b>Cat No. :</b>	<b>32614</b>
<b>Synonyms</b>	Methane trichloride; Methenyl trichloride; Formyl trichloride
<b>Index No</b>	602-006-00-4
<b>CAS No</b>	67-66-3
<b>EC No</b>	200-663-8
<b>Molecular Formula</b>	C H Cl <sub>3</sub>
<b>REACH registration number</b>	-

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

<b>Recommended Use</b>	Laboratory chemicals.
<b>Sector of use</b>	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
<b>Product category</b>	PC21 - Laboratory chemicals
<b>Process categories</b>	PROC15 - Use as a laboratory reagent
<b>Environmental release category</b>	ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
<b>Uses advised against</b>	All other uses

### 1.3. Details of the supplier of the safety data sheet

<b>Company</b>	Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific) Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608
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**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567**

**Physical hazards**

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Based on available data, the classification criteria are not met

## **Health hazards**

Acute oral toxicity	Category 4 (H302)
Acute Inhalation Toxicity - Vapors	Category 3 (H331)
Skin Corrosion/Irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 2 (H319)
Carcinogenicity	Category 2 (H351)
Reproductive Toxicity	Category 2 (H361d)
Specific target organ toxicity - (single exposure)	Category 3 (H336)
Specific target organ toxicity - (repeated exposure)	Category 1 (H372)

## **Environmental hazards**

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## **2.2. Label elements**



**Signal Word**

**Danger**

## **Hazard Statements**

- H302 - Harmful if swallowed
- H331 - Toxic if inhaled
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H336 - May cause drowsiness or dizziness
- H351 - Suspected of causing cancer
- H361d - Suspected of damaging the unborn child
- H372 - Causes damage to organs through prolonged or repeated exposure

## **Precautionary Statements**

- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
- P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P311 - Call a POISON CENTER or doctor/physician

## **Additional EU labelling**

For use in industrial installations only

## **2.3. Other hazards**

- Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)
- Cardiac and respiratory depression
- Overexposure may cause decreased heart rate, decreased blood pressure, heart block, and cardiac failure
- Toxic to terrestrial vertebrates

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This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Component	CAS No	EC No	Weight %	GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Chloroform	67-66-3	200-663-8	>99	Acute Tox. 4 (H302) Acute Tox. 3 (H331) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H336) Carc. 2 (H351) Repr. 2 (H361d) STOT RE 1 (H372)
1-Pentene	109-67-1	EEC No. 203-694-5	0.01	Flam. Liq. 1 (H224) Asp. Tox. 1 (H304) Aquatic Chronic 3 (H412)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Chloroform	STOT RE 2 : C ≥ 5 %	-	-

#### Note

Amylene is used as a stabilizer, but there is evidence that it may not prevent phosgene generation. Chloroform stabilized with amylene should be tested for phosgene content.

REACH registration number	-
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Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>General Advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
<b>Self-Protection of the First Aider</b>	Use personal protective equipment as required.

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

Difficulty in breathing. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing: Causes central nervous system depression

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

### Notes to Physician

Treat symptomatically. Signs of overdose include stupor and respiratory depression. Symptoms may be delayed.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

#### Extinguishing media which must not be used for safety reasons

No information available.

### 5.2. Special hazards arising from the substance or mixture

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

#### Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Phosgene, Hydrogen chloride gas.

### 5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

### 6.2. Environmental precautions

Should not be released into the environment.

### 6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

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Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

## Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

## 7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct sunlight. Store under an inert atmosphere. Protect from moisture.

**Technical Rules for Hazardous Substances (TRGS) 510**      Class 6.1D  
**Storage Class (LGK) (Germany)**

## 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **IRE** - 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

Component	The United Kingdom	European Union	Ireland
Chloroform	TWA: 2 ppm TWA: 9.9 mg/m <sup>3</sup> STEL: 6 ppm STEL: 29.7 mg/m <sup>3</sup>	TWA: 2 ppm 8 hr TWA: 10 mg/m <sup>3</sup> 8 hr Possibility of significant uptake through the skin	TWA: 2 ppm 8 hr. TWA: 9.8 mg/m <sup>3</sup> 8 hr. STEL: 6 ppm 15 min STEL: 29.4 mg/m <sup>3</sup> 15 min Skin

#### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

#### Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Chloroform 67-66-3 (>99)				DNEL = 0.94mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Chloroform 67-66-3 (>99)		DNEL = 333mg/m <sup>3</sup>	DNEL = 2.5mg/m <sup>3</sup>	DNEL = 2.5mg/m <sup>3</sup>

#### Predicted No Effect Concentration (PNEC)

ALFAA32614

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See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
Chloroform 67-66-3 ( >99 )	PNEC = 0.146mg/L	PNEC = 0.45mg/kg sediment dw	PNEC = 0.133mg/L	PNEC = 0.048mg/L	PNEC = 0.56mg/kg soil dw
1-Pentene 109-67-1 ( 0.01 )	PNEC = 5.9µg/L	PNEC = 0.104mg/kg sediment dw	PNEC = 59µg/L	PNEC = 0.45mg/L	PNEC = 0.023mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Chloroform 67-66-3 ( >99 )	PNEC = 0.015mg/L	PNEC = 0.09mg/kg sediment dw			
1-Pentene 109-67-1 ( 0.01 )	PNEC = 0.59µg/L	PNEC = 0.01mg/kg sediment dw	PNEC = 5.9µg/L		

## 8.2. Exposure controls

### Engineering Measures

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### Eye Protection

Goggles (European standard - EN 166)

#### Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Viton (R)	> 480 minutes	-	Level 6 EN 374	As tested under EN374-3 Determination of Resistance to Permeation by Chemicals
Neoprene	< 25 minutes	0.45 mm		
Butyl rubber	< 15 minutes	0.35 mm		

#### Skin and body protection

Long sleeved clothing.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

#### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

#### Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** low boiling organic solvent Type AX Brown conforming to EN371

#### Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

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When RPE is used a face piece Fit Test should be conducted

**Environmental exposure controls** Prevent product from entering drains.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

<b>Physical State</b>	Liquid	
<b>Appearance</b>	Colorless	
<b>Odor</b>	aromatic sweet	
<b>Odor Threshold</b>	No data available	
<b>Melting Point/Range</b>	-63 °C / -81.4 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	61 °C / 141.8 °F	
<b>Flammability (liquid)</b>	No data available	
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	No data available	
<b>Flash Point</b>	No information available	<b>Method -</b> No information available
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>pH</b>	No information available	
<b>Viscosity</b>	0.56 mPa s at 20 °C	
<b>Water Solubility</b>	8 g/L (20°C)	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Chloroform	2	
1-Pentene	2.66	
<b>Vapor Pressure</b>	213 mbar @ 20 °C	
<b>Density / Specific Gravity</b>	1.480	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Vapor Density</b>	No data available	(Air = 1.0)
<b>Particle characteristics</b>	Not applicable (liquid)	

### 9.2. Other information

<b>Molecular Formula</b>	C H Cl <sub>3</sub>
<b>Molecular Weight</b>	119.38
<b>VOC Content(%)</b>	100

## SECTION 10: STABILITY AND REACTIVITY

**10.1. Reactivity** None known, based on information available

**10.2. Chemical stability** Stable under normal conditions. UNSTABLE (REACTIVE) UPON DEPLETION OF INHIBITOR. Light sensitive.

### 10.3. Possibility of hazardous reactions

**Hazardous Polymerization** Hazardous polymerization does not occur.  
**Hazardous Reactions** None under normal processing.

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## 10.4. Conditions to avoid

Incompatible products. Heat, flames and sparks. Excess heat. Exposure to light. Protect from moisture.

## 10.5. Incompatible materials

Strong oxidizing agents. Alkali metals. Aluminium. Acetone.

## 10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Phosgene. Hydrogen chloride gas.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Product Information

##### (a) acute toxicity;

Oral

Category 4

Dermal

Based on available data, the classification criteria are not met

Inhalation

Category 3

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Chloroform	LD50 = 908 mg/kg (rat) LD50 = 695 mg/kg ( Rat ) LD50 = 450 mg/kg ( Rat )	LD50 > 20 g/kg ( Rabbit )	LC50 = 10.5 mg/L ( Rat ) 4 h
1-Pentene	>2000 mg/kg (Rat)	>2000 mg/kg (Rabbit)	LC50 = 10000 ppm ( Rat ) 4 h

##### (b) skin corrosion/irritation;

Category 2

##### (c) serious eye damage/irritation;

Category 2

##### (d) respiratory or skin sensitization;

Respiratory

Based on available data, the classification criteria are not met

Skin

Based on available data, the classification criteria are not met

##### (e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

##### (f) carcinogenicity;

Category 2

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Chloroform				Group 2B

##### (g) reproductive toxicity;

Reproductive Effects  
Developmental Effects  
Teratogenicity

Category 2

Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental effects have occurred in experimental animals.

Study result . negative.

##### (h) STOT-single exposure;

Category 3

Results / Target organs

Central nervous system (CNS).

##### (i) STOT-repeated exposure;

Category 1



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**Study result** LOAEL = 15 mg/kg bw/day  
NOAEC = 25 mg/m<sup>3</sup>

**Route of exposure** Inhalation

**Target Organs** Liver, Kidney.

**(j) aspiration hazard;** Based on available data, the classification criteria are not met

**Other Adverse Effects** Tumorigenic effects have been reported in experimental animals.

**Symptoms / effects, both acute and delayed** Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing. Causes central nervous system depression.

**11.2. Information on other hazards**

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

**SECTION 12: ECOLOGICAL INFORMATION**

**12.1. Toxicity**

**Ecotoxicity effects** Do not empty into drains. The product contains following substances which are hazardous for the environment. Contains a substance which is: Harmful to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Chloroform	LC50: = 300 mg/L, 96h static (Poecilia reticulata) LC50: = 18 mg/L, 96h flow-through (Lepomis macrochirus) LC50: = 18 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 71 mg/L, 96h flow-through (Pimephales promelas)	EC50 = 28.9 mg/L/48h	EC50 = 560 mg/L/48h

Component	Microtox	M-Factor
Chloroform	Photobacterium phosphoreum: EC50 = 520 mg/L/5 min Photobacterium phosphoreum: EC50 = 670 mg/L/15 min Photobacterium phosphoreum: EC50 = 670 mg/L/30min	

**12.2. Persistence and degradability** Product is biodegradable

**Persistence** Persistence is unlikely, based on information available.

**Degradation in sewage treatment plant** Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**12.3. Bioaccumulative potential** Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Chloroform	2	1.4 - 13 dimensionless
1-Pentene	2.66	No data available

**12.4. Mobility in soil** The product contains volatile organic compounds (VOC) which will evaporate easily from all

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surfaces Will likely be mobile in the environment due to its volatility. Disperses rapidly in air

## 12.5. Results of PBT and vPvB assessment

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

## 12.6. Endocrine disrupting properties

### **Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 12.7. Other adverse effects

### **Persistent Organic Pollutant**

### **Ozone Depletion Potential**

This product does not contain any known or suspected substance

This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

#### **Waste from Residues/Unused Products**

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

#### **Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.

#### **European Waste Catalogue (EWC)**

According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

#### **Other Information**

Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

<u>14.1. UN number</u>	UN1888
<u>14.2. UN proper shipping name</u>	Chloroform
<u>14.3. Transport hazard class(es)</u>	6.1
<u>14.4. Packing group</u>	III

### ADR

<u>14.1. UN number</u>	UN1888
<u>14.2. UN proper shipping name</u>	Chloroform
<u>14.3. Transport hazard class(es)</u>	6.1
<u>14.4. Packing group</u>	III

### IATA

<u>14.1. UN number</u>	UN1888
<u>14.2. UN proper shipping name</u>	Chloroform
<u>14.3. Transport hazard class(es)</u>	6.1
<u>14.4. Packing group</u>	III

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**14.5. Environmental hazards** No hazards identified

**14.6. Special precautions for user** No special precautions required.

**14.7. Maritime transport in bulk according to IMO instruments** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

**International Inventories**

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Chloroform	67-66-3	200-663-8	-	-	X	X	X	X	X
1-Pentene	109-67-1	203-694-5	-	-	X	X	KE-28027	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Chloroform	67-66-3	X	ACTIVE	X	-	X	X	X
1-Pentene	109-67-1	X	ACTIVE	X	-	X	X	X

**Legend:** X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Chloroform	67-66-3	-	Use restricted. See item 32. (see <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT</a> for restriction details)	-
1-Pentene	109-67-1	-	-	-

**REACH links**

<https://echa.europa.eu/substances-restricted-under-reach>

### Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Chloroform	67-66-3	Not applicable	Not applicable
1-Pentene	109-67-1	Not applicable	Not applicable

### Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Component	ANNEX I - PART 1 List of chemicals subject to export notification procedure (referred to in Article 8)	ANNEX I - PART 2 List of chemicals qualifying for PIC notification (referred to in Article 11)	ANNEX I - PART 3 List of chemicals subject to the PIC procedure (referred to in Articles 13 and

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Chloroform 67-66-3 ( >99 )	b — ban (for the category or categories concerned)  b — ban (for the category or categories concerned)  i(2) — industrial chemical for public	-	<b>14)</b> -
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<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012R0649&qid=1604065742303>.

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work

**National Regulations**

**UK** - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

**WGK Classification**

See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Chloroform	WGK 3	Class I : 20 mg/m <sup>3</sup> (Massenkonzentration)
1-Pentene	WGK2	

Component	France - INRS (Tables of occupational diseases)
Chloroform	Tableaux des maladies professionnelles (TMP) - RG 12

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Chloroform 67-66-3 ( >99 )	Prohibited and Restricted Substances		Annex I - industrial chemical
1-Pentene 109-67-1 ( 0.01 )	Prohibited and Restricted Substances		

**15.2. Chemical safety assessment**

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

**SECTION 16: OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3**

H302 - Harmful if swallowed

H332 - Harmful if inhaled

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H351 - Suspected of causing cancer

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H361d - Suspected of damaging the unborn child  
H336 - May cause drowsiness or dizziness  
H372 - Causes damage to organs through prolonged or repeated exposure  
H224 - Extremely flammable liquid and vapor  
H304 - May be fatal if swallowed and enters airways  
H331 - Toxic if inhaled  
H412 - Harmful to aquatic life with long lasting effects

## Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

### **Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

### **Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

**Prepared By**

Health, Safety and Environmental Department

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02-Jul-2024

**Revision Summary**

New emergency telephone response service provider.

**This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.**

### **Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

# SAFETY DATA SHEET

Chloroform, ACS

Revision Date 02-Jul-2024

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**End of Safety Data Sheet**