



Chloroform

GPS9009

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758 and SI 2020/1577

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

1.1 Product identifier

Product Name	Chloroform
Synonyms	Formyl trichloride, Methenyl trichloride, Freon 20
Chemical Name	Trichloromethane
Chemical Formula	CHCl ₃
Product code	GPS9009
CAS No.	67-66-3
EC No.	200-663-8
REACH Registration No.	Not known.

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

Identified Use(s)	Industrial/professional : PROC15 Use as laboratory reagent ERC1 Manufacture of substances
Uses Advised Against	Not known.

1.3 Details of the supplier of the safety data sheet

Manufacturer	Atom Scientific Ltd
Company Identification	Unit 2A East Tame Business Park
Address of Manufacturer	Rexcine Way Hyde Cheshire
Postal code	SK14 4GX
Telephone:	0161 3665123
Fax	01704 337167
E-mail	technical@atomscientific.com
Office hours	08:00 - 17:00

Supplier	Atom Scientific Ltd
Company Identification	Unit 2A East Tame Business Park
Address of Supplier	Rexcine Way Hyde Cheshire
Postal code	SK14 4GX
Telephone:	0161 3665123
Fax	01704 337167
E-mail	technical@atomscientific.com
Office hours	08:00 - 17:00

1.4 Emergency telephone number

Emergency Phone No.	07833453806
Contact	Peter Keenan

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GB CLP Regulation, UK SI 2019/720 and UK SI 2020/1567	Acute Tox. 4 :Harmful if swallowed. Skin Irrit. 2 :Causes skin irritation. Eye Irrit. 2 :Causes serious eye irritation. Acute Tox. 3 :Toxic if inhaled. Carc. 2 :Suspected of causing cancer. Repr. 2 :Suspected of damaging the unborn child. STOT RE 1 :Causes damage to organs through prolonged or repeated exposure.
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2.2 Label elements

	According to GB CLP Regulations, UK SI 2019/720 and UK SI 2020/1567
Product Name	Chloroform

Hazard Pictogram(s)



GHS06



GHS08



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Signal Word(s)	Danger
Hazard Statement(s)	H302: Harmful if swallowed. H315: Causes skin irritation. H319: Causes serious eye irritation. H331: Toxic if inhaled. H351: Suspected of causing cancer. H361d: Suspected of damaging the unborn child. H372: Causes damage to organs through prolonged or repeated exposure.
Precautionary Statement(s)	P260: Do not breathe dust/fume/gas/mist/vapours/spray. P280: Wear protective gloves/protective clothing/eye protection/face protection. 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. P403+P233: Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

None known.

2.4 Additional Information

For full text of H/P Statements see section 16.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

HAZARDOUS INGREDIENT(S)	CAS No.	EC No. / Registration number(s)	%W/W	Hazard Statement(s)	Hazard Pictogram(s)
chloroform	67-66-3	200-663-8	> 99	Acute Tox. 4 H302 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Acute Tox. 3 H331 Carc. 2 H351 Repr. 2 H361d STOT RE 1 H372	GHS06 GHS08 GHS07

3.2 Mixtures

Not applicable.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Call a POISON CENTRE/doctor.
Skin Contact	Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. If exposed or concerned:
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. If eye irritation persists: Get medical advice/attention
Ingestion	Rinse mouth. Immediately call a POISON CENTRE/doctor.

4.2 Most important symptoms and effects, both acute and delayed

May cause irritation.

4.3 Indication of any immediate medical attention and special treatment needed

IF exposed or concerned: Get medical advice/attention. Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media	As appropriate for surrounding fire.
Unsuitable extinguishing media	None.



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5.2 Special hazards arising from the substance or mixture

May decompose in a fire, giving off toxic and irritant vapours.

5.3 Advice for firefighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Ensure full personal protection (including respiratory protection) during removal of spillages.

6.2 Environmental precautions

Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

6.3 Methods and material for containment and cleaning up

Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal.

6.4 Reference to other sections

See Also Section 8, 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Storage temperature

Ambient.

Storage life

Stable under normal conditions.

Incompatible materials

None known.

7.3 Specific end use(s)

Industrial/professional : PROC15 Use as laboratory reagent ERC1 Manufacture of substances

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

Occupational Exposure Limits						
SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Chloroform	67-66-3	2	9.9			Sk

Region
United Kingdom

Source
UK Workplace Exposure Limits EH40/2005 (Fourth edition, published 2020)

Remark
Sk

Notes
Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.

8.2 Exposure controls

8.2.1. Appropriate engineering controls

Use with ventilation, local exhaust ventilation or breathing protection. A washing facility/water for eye and skin cleaning purposes should be present.

8.2.2. Personal protection equipment

Eye Protection

Wear eye protection with side protection (EN ISO 16321-1).





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Skin protection

Wear protective clothing and gloves: Impervious gloves (EN 374). Breakthrough time of the glove material: refer to the information provided by the gloves' producer.



Respiratory protection

A suitable mask with filter type A (EN14387 or EN405) may be appropriate.



Thermal hazards

None known.

8.2.3. Environmental Exposure Controls Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless
Odour	Characteristic. Sweet or pleasant smelling.
Odour threshold	205-307ppm
pH	Not known.
Melting point/freezing point	-63°C
Initial boiling point and boiling range	61-62°C (760mm Hg)
Flash Point	None
Evaporation rate	Not known.
Flammability (solid, gas)	Not known.
Upper/lower flammability or explosive limits	Not known.
Vapour pressure	197mm Hg (25°C)
Vapour density	Not known.
Density (g/ml)	1.4788g/cm ³ (25°C)
Relative density	Not known.
Solubility(ies)	Solubility (Water) : 0.8g /100ml (20°C) The product is sparingly soluble in water. Solubility (Other) : Miscible with most organic solvents.
Partition coefficient: n-octanol/water	1.97
Auto-ignition temperature	Not known.
Decomposition Temperature (°C)	Not known.
Viscosity	Not known.
Explosive properties	Not known.
Oxidising properties	Not known.

9.2 Other information

None.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

None anticipated.

10.2 Chemical Stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known if used for its intended purpose.

10.4 Conditions to avoid

None anticipated.

10.5 Incompatible materials

Not known.

10.6 Hazardous decomposition products

Phosgene, hydrogen chloride, chlorine, carbon dioxide, formic acid



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SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion	Harmful if swallowed.
Acute toxicity - Skin Contact	Not classified.
Acute toxicity - Inhalation	Toxic if inhaled.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye irritation.
Skin sensitization data	Not classified.
Respiratory sensitization data	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Suspected of causing cancer.
Reproductive toxicity	Suspected of damaging the unborn child.
Lactation	Not classified.
STOT - single exposure	Not classified.
STOT - repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not classified.

11.2 Other information

Not known.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity - Aquatic invertebrates	Low toxicity to invertebrates.
Toxicity - Fish	Low toxicity to fish.
Toxicity - Algae	Low toxicity to algae.
Toxicity - Sediment Compartment	Not classified.
Toxicity - Terrestrial Compartment	Not classified.

12.2 Persistence and degradability

Not known.

12.3 Bioaccumulative potential

Not known.

12.4 Mobility in soil

The product has high mobility in soil.

12.5 Results of PBT and vPvB assessment

Not known.

12.6 Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose of contents in accordance with local, state or national legislation. Send to a licensed recycler, reclaimer or incinerator. Dispose of this material and its container to hazardous or special waste collection point. Dispose at suitable refuse site.

13.2 Additional Information

Disposal should be in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

UN No. 1888

14.2 UN proper shipping name

UN proper shipping name CHLOROFORM

14.3 Transport hazard class(es)

ADR/RID

ADR/RID Class 6.1

ADR Classification Code T1

Special Provisions

Limited Quantities 5 L

Excepted Quantities E1

Emergency Action Code 22



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Packing Instructions for Packages	P001 IBC03 LP01 R001
Special Packing Provisions for Packages	
Mixed Packing Instructions for Packages	MP19
Instructions for Portable Tanks	T7
Special Provisions for Portable Tanks	TP2
Tank Code for Tanks	L4BH
Special Provisions for Tanks	TU15 TE19
Vehicle for Tank Carriage	AT
ADR Transport Category	2
Tunnel Restriction Code	E
Special Provisions for Carriage - Packages	V12
Special Provisions for Carriage - Bulk	
Special Provisions for Carriage - Loading, Unloading and Handling	CV13 CV28
Special Provisions for Carriage - Operation	S9
ADR HIN	60
IMDG	
IMDG Class	6.1
Special Provisions	
Limited Quantities	5 L
Excepted Quantities	E1
Mixed Packing Instructions for Packages	P001 LP01 IBC03
Special Packing Provisions for Packages	
Instructions for Portable Tanks	T7
Special Provisions for Portable Tanks	TP2
IMDG EMS	F-A, S-A
Stowage and Handling	Category A SW2
Segregation	SGG10
Marine Pollutant	
ICAO/IATA	
ICAO/IATA Class	6.1
Excepted Quantities	E1
Passenger and Cargo Aircraft Limited Quantities Packing Instructions	Y680
Passenger and Cargo Aircraft Limited Quantities Max net Qty	2L
Passenger and Cargo Aircraft Packing Instructions	680
Passenger and Cargo Aircraft Max net Qty	60L
Cargo Aircraft Packing Instructions	680
Cargo Aircraft Max net Qty	220L
Special Provisions	
Emergency Response Guidebook (ERG) Code	6A
Labels	
Labels	6.1



14.4 Packing group

Packing group III

14.5 Environmental hazards

Environmental hazards Not classified as a Marine Pollutant.

14.6 Special precautions for user

Special precautions for user Not known.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

No information available



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SECTION 15: REGULATORY INFORMATION

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

United Kingdom Regulations - Authorisations and/or Restrictions On Use

UK REACH Candidate List of Substances Not listed
of Very High Concern for Authorisation

UK REACH Authorisation List (Annex XIV) list of substances subject to authorisation Not listed

UK REACH Restrictions List (Annex XVII) chloroform (67-66-3)

Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

UK REACH Rolling Action Plan (RAP) Not listed

Persistent Organic Pollutants (Various Amendments) Regulations 2019 (SI 2019/1099) Not listed

The Ozone-Depleting Substances and Fluorinated Greenhouse Gases

(Amendment etc.) (EU Exit) Regulations 2019 (SI 2019/583) Not listed

The Prior Informed Consent (PIC) chloroform (67-66-3)

Regulations concerning the export and import of hazardous chemicals SI2008/2108 as amended

European Regulations - Authorisations and/or Restrictions On Use

Community Rolling Action Plan (CoRAP) Not listed

Seveso Directive Code H2: Lower Tier Quantity 50 - Upper Tier Quantity 200

15.2 Chemical Safety Assessment

United Kingdom A REACH chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements:

LEGEND

Hazard Pictogram(s)



GHS06



GHS08

GHS07: GHS: Exclamation mark

Hazard classification

Acute Tox. 4 : Acute toxicity, Category 4

Skin Irrit. 2 : Skin corrosion/irritation, Category 2

Eye Irrit. 2 : Serious eye damage/irritation, Category 2

Acute Tox. 3 : Acute toxicity, Category 3

Carc. 2 : Carcinogenicity, Category 2

Repr. 2 : Reproductive toxicity, Category 2

STOT RE 1 : Specific target organ toxicity — repeated exposure, Category 1

Hazard Statement(s)

H302: Harmful if swallowed.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H331: Toxic if inhaled.

H351: Suspected of causing cancer.



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H361d: Suspected of damaging the unborn child.

H372: Causes damage to organs through prolonged or repeated exposure.

Precautionary Statement(s)

P201: Obtain special instructions before use.
 P202: Do not handle until all safety precautions have been read and understood.
 P260: Do not breathe dust/fume/gas/mist/vapours/spray.
 P264: Wash hands and exposed skin thoroughly after handling.
 P270: Do not eat, drink or smoke when using this product.
 P271: Use only outdoors or in a well-ventilated area.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P312: IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
 P302+P352: IF ON SKIN: Wash with plenty of 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.
 P308+P313: IF exposed or concerned: Get medical advice/attention.
 P311: Call a POISON CENTRE/doctor.
 P314: Get medical advice/attention if you feel unwell.
 P321: Specific treatment (see Medical Advice on this label).
 P330: Rinse mouth.
 P332+P313: If skin irritation occurs: Get medical advice/attention.
 P337+P313: If eye irritation persists: Get medical advice/attention.
 P362+P364: Take off contaminated clothing and wash it before reuse.
 P403+P233: Store in a well-ventilated place. Keep container tightly closed.
 P405: Store locked up.
 P501: Dispose of contents in accordance with local, state or national legislation.

Acronyms

ADN : European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE : Acute Toxicity Estimate
 CAS : Chemical Abstracts Service
 DNEL : Derived No Effect Level
 EC : European Community
 EINECS : European Inventory of Existing Commercial Chemical Substances
 IATA : International Air Transport Association
 IBC : Intermediate Bulk Container
 ICAO : International Civil Aviation Organization
 IMDG : International Maritime Dangerous Goods
 LTEL : Long term exposure limit
 PBT : Persistent, Bioaccumulative and Toxic
 PNEC : Predicted No Effect Concentration
 REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals
 RID : Regulations concerning the International Carriage of Dangerous Goods by Rail
 STEL : Short term exposure limit
 STOT : Specific Target Organ Toxicity
 UN : United Nations
 vPvB : very Persistent and very Bioaccumulative

Key literature references and sources for data used to compile the SDS GB CLP Regulation, UK SI 2019/720 and UK SI 2020/1567

Training Advice
 Disclaimers

Regular safety training as appropriate
 Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Atom Scientific Ltd gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Atom Scientific Ltd accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.