SAFETY DATA

according to Regulation UK SI 2019/758 and UK SI 2020

Creation Date 22-Sep-2009 **Revision Date** 05-Jun-2026

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

1.1. Product identifier

Product Description:	**Allyl chloride**
Cat No. :	**A14330**
Synonyms	3-Chloropropene
Index No	602-029-00-X
CAS No	107-05-1
EC No	203-457-6
Molecular Formula	C3 H5 Cl
REACH registration number	-

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

Recommended Use	Laboratory chemicals
Uses advised against	No Information available

1.3. Details of the supplier of the safety data sheet

Company

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

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
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-38

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Acute oral toxicity	Category 3 (H301
Acute dermal toxicity	Category 3 (H311
Acute Inhalation Toxicity - Vapors	Category 3 (H331
Skin Corrosion/Irritation	Category 2 (H315
Serious Eye Damage/Eye Irritation	Category 2 (H319
Germ Cell Mutagenicity	Category 2 (H341
Carcinogenicity	Category 2 (H351
Specific target organ toxicity - (single exposure)	Category 3 (H335
Specific target organ toxicity - (repeated exposure)	Category 1 (H372
Environmental hazards	
Acute aquatic toxicity	Category 1 (H400

Full text of Hazard Statements: see section 16

2.2. Label elements

Signal Word **Danger**

Hazard Statements

H225 - Highly flammable liquid and vapor
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects
H351 - Suspected of causing cancer
H372 - Causes damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled

Precautionary Statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin wi
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P311 - Call a POISON CENTER or doctor/physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lense
easy to do. Continue rinsing
P280 - Wear protective gloves/protective clothing/eye protection/face protection

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS No	EC No	Weight %	GHS Classifica GB-CLP Regulatio UK SI
Allyl chloride	107-05-1	EEC No. 203-457-6	>95	Flam. L Acute T Acute T Acute T Skin Irr Eye Irr Muta. Carc. STOT S STOT R Aquatic A
Propylene oxide	75-56-9	EEC No. 200-879-2	0.05-0.09	Flam. Li Acute T Acute T Acute T Eye Irri STOT S Muta. Carc.

Component	Specific concentration limits (SCL's)	M-Factor	Co
Allyl chloride	-	1	

REACH registration number	-

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate me required.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at le the case of contact with eyes, rinse immediately with plenty of water a advice.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Imm attention is required.

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

None reasonably foreseeable. Inhalation of high vapor concentrations symptoms like headache, dizziness, tiredness, nausea and vomiting

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

Notes to Physician Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Carbon dioxide (CO_2). Dry chemical. Water mist may be used to cool closed containers. Chemical foam. Wate to cool closed containers.

Extinguishing media which must not be used for safety reasons
No information available.

5.2. Special hazards arising from the substance or mixture

Flammable. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash ba explode when heated. Vapors may form explosive mixtures with air. Do not allow run-off from fire-fighting to e courses.

Hazardous Combustion Products
Carbon monoxide (CO), Carbon dioxide (CO_2), Phosgene, Hydrogen chloride gas.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equival 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

Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upw Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water s product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only unde hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static dis

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and anima not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, includi re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Flammables area. Keep away from heat, sparks and flame. Keep container tightly closed in a dry and well-ver

Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany) Class 3

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

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

Component	The United Kingdom	European Union	
Allyl chloride			
Propylene oxide	STEL: 3 ppm 15 min STEL: 7.2 mg/m³ 15 min TWA: 1 ppm 8 hr TWA: 2.4 mg/m³ 8 hr Carc.	TWA: 2.4 mg/m³ (8h) TWA: 1 ppm (8h)	

Biological limit values
List source(s):

107-05-1 (>95)		bw/day		

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	sy
Allyl chloride 107-05-1 (>95)	DNEL = 15.4mg/m³	DNEL = 6.2mg/m³		
Propylene oxide 75-56-9 (0.05-0.09)	DNEL = 170mg/m³		DNEL = 2.4mg/m³	

Predicted No Effect Concentration (PNEC)
See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment
Allyl chloride 107-05-1 (>95)	PNEC = 0.0012mg/L	PNEC = 0.00996mg/kg sediment dw	PNEC = 0.012mg/L	PNEC = 120mg/L
Propylene oxide 75-56-9 (0.05-0.09)	PNEC = 0.052mg/L	PNEC = 0.245mg/kg sediment dw	PNEC = 0.52mg/L	PNEC = 10mg/L

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain
Allyl chloride 107-05-1 (>95)	PNEC = 0.00012mg/L	PNEC = 0.000996mg/kg sediment dw		
Propylene oxide 75-56-9 (0.05-0.09)	PNEC = 0.0052mg/L	PNEC = 0.0245mg/kg sediment dw		

8.2. Exposure controls

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers a
workstation location. Use explosion-proof electrical/ventilating/lighting equipment.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introd
equipment changes to minimise release or contact, and the use of properly designed ventilation systems, shou
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 co
Viton (R)	See manufacturers recommendations	-	EN 374	(minimum re

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposu

Inspect gloves before use.

	To protect the wearer, respiratory protective equipment must be the co and maintained properly
Large scale/emergency use	Use a NIOSH/MSHA or European Standard EN 136 approved respirat are exceeded or if irritation or other symptoms are experienced **Recommended Filter type:** low boiling organic solvent Type AX Brow EN371
Small scale/Laboratory use	Use a NIOSH/MSHA or European Standard EN 149:2001 approved re limits are exceeded or if irritation or other symptoms are experienced. **Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN 141 When RPE is used a face piece Fit Test should be conducted
Environmental exposure controls	Prevent product from entering drains. Do not allow material to contami system. Local authorities should be advised if significant spillages can

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid	
Appearance	Colorless	
Odor	pungent	
Odor Threshold	No data available	
Melting Point/Range	-136 °C / -212.8 °F	
Softening Point	No data available	
Boiling Point/Range	44 - 46 °C / 111.2 - 114.8 °F	@ 760 mmHg
Flammability (liquid)	Highly flammable	On basis of test data
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	**Lower** 3.3 Vol% **Upper** 11.2 Vol%	
Flash Point	-29 °C / -20.2 °F	**Method -** No information avail
Autoignition Temperature	390 °C / 734 °F	
Decomposition Temperature	No data available	
pH	No information available	
Viscosity	0.34 mPa.s at 20 °C	
Water Solubility	3.6 g/L (20°C)	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	**log Pow**	
Allyl chloride	2.1	
Propylene oxide	1	
Vapor Pressure	395 mbar @ 20 °C	
Density / Specific Gravity	0.939	
Bulk Density	Not applicable	Liquid
Vapor Density	No information available	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	

9.2. Other information

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

May form explosive peroxides.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization may occur.
Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition. Ex
to light. Incompatible products. Exposure to moist air or water.

10.5. Incompatible materials

Acids. Bases. Amines. Metals. Finely powdered metals.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO_2). Phosgene. Hydrogen

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 3
Dermal Category 3
Inhalation Category 3

Component	LD50 Oral	LD50 Dermal	LC
Allyl chloride	LD50 = 450 mg/kg (Rat)	LD50 = 2026 mg/kg (Rabbit)	LC50 =
Propylene oxide	LD50 = 382 mg/kg (Rat), OECD Guideline 401	LD50 = 950 mg/kg (Rabbit)	LC50 = 9 OEC

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

Respiratory No data available
Skin No data available

(e) germ cell mutagenicity; Category 2

Component	EU	UK	Germany	
Propylene oxide	Carc Cat. 1B			

(g) reproductive toxicity; No data available

(h) STOT-single exposure; Category 3

Results / Target organs Respiratory system.

(i) STOT-repeated exposure; Category 1

Target Organs Central nervous system (CNS), Liver, Kidney.

(j) aspiration hazard; No data available

Symptoms / effects,both acute and delayed Inhalation of high vapor concentrations may cause symptoms like head tiredness, nausea and vomiting.

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects The product contains following substances which are hazardous for the toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Fre
Allyl chloride	LC50: 41.03 - 67.02 mg/L, 96h static (Poecilia reticulata) LC50: 14.97 - 24.78 mg/L, 96h static (Pimephales promelas) LC50: 33.52 - 53.47 mg/L, 96h static (Lepomis macrochirus)		
Propylene oxide	LC50: = 215 mg/L, 96h static (Lepomis macrochirus)	EC50: = 350 mg/L, 48h (Daphnia magna)	EC50 (Pseudokir

Component	Microtox	M-Fac
Allyl chloride		1
Propylene oxide	EC50 = 3300 mg/L 160 min	

12.2. Persistence and degradability

Persistence Persistence is unlikely, based on information available.

Degradation in sewage Contains substances known to be hazardous to the environment or no

12.4. Mobility in soil	The product contains volatile organic compounds (VOC) which will eva surfaces Will likely be mobile in the environment due to its volatility. D air
12.5. Results of PBT and vPvB assessment	No data available for assessment.
12.6. Endocrine disrupting properties	
Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disru
12.7. Other adverse effects	
Persistent Organic Pollutant	This product does not contain any known or suspected substance
Ozone Depletion Potential	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 E on waste and hazardous waste. Dispose of in accordance with local re
Contaminated Packaging	Dispose of this container to hazardous or special waste collection poin retain product residue, (liquid and/or vapor), and can be dangerous. Ke empty container away from heat and sources of ignition.
European Waste Catalogue (EWC)	According to the European Waste Catalog, Waste Codes are not produ application specific.
Other Information	Do not flush to sewer. Waste codes should be assigned by the user ba application for which the product was used. Can be landfilled or incine compliance with local regulations. Do not let this chemical enter the en empty into drains.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number	UN1100
14.2. UN proper shipping name	ALLYL CHLORIDE
14.3. Transport hazard class(es)	3
Subsidiary Hazard Class	6.1
14.4. Packing group	I

IATA

14.1. UN number	UN1100
14.2. UN proper shipping name	ALLYL CHLORIDE
14.3. Transport hazard class(es)	3
Subsidiary Hazard Class	6.1
14.4. Packing group	I
14.5. Environmental hazards	Dangerous for the environment Product is a marine pollutant according to the criteria set by IMDG/IMO
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 (DS (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
Allyl chloride	107-05-1	203-457-6	-	-	X	X	KE-05882
Propylene oxide	75-56-9	200-879-2	-	-	X	X	KE-24565

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS
Allyl chloride	107-05-1	X	ACTIVE	X	-	X
Propylene oxide	75-56-9	X	ACTIVE	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	R 1 Su
Allyl chloride	107-05-1	-	Use restricted. See entry 75. (see link for restriction details)	
Propylene oxide	75-56-9	-	Use restricted. See entry 28. (see link for restriction details) Use restricted. See entry	S Ca S M

https://echa.europa.eu/authorisation-list
https://echa.europa.eu/substances-restricted-under-reach
https://echa.europa.eu/candidate-list-table
After the sunset date the use of this substance requires either an authorization or can only be used for exempt scientific research and development which includes routine analytics or use as intermediate.

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Direc Qualifying Quanti Requ
Allyl chloride	107-05-1	Not applicable	Not a
Propylene oxide	75-56-9	5 tonne	50

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

Component	CAS No	OECD HPV	Restriction of Hazardous Substances (RoHS)	
Allyl chloride	107-05-1	Listed	Not applicable	
Propylene oxide	75-56-9	Listed	Not applicable	

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning import of dangerous chemicals
Not applicable

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

National Regulations

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

WGK Classification See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft
Allyl chloride	WGK2	Class I : 20 mg/m³ (Massen
Propylene oxide	WGK3	Krebserzeugende Stoffe - Cla (Massenkonzentra

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

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

H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects
H351 - Suspected of causing cancer
H372 - Causes damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H224 - Extremely flammable liquid and vapor
H225 - Highly flammable liquid and vapor
H302 - Harmful if swallowed
H340 - May cause genetic defects
H350 - May cause cancer

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 A Inventory
DSL/NDSL - Canadian Domestic Substances List Substances List
ENCS - Japanese Existing and New Chemical Su
AICS - Australian Inventory of Chemical Substanc
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 Can
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

ICAO/IATA - International Civil Aviation Organiza Transport Association
MARPOL - International Convention for the Preve Ships
ATE - Acute Toxicity Estimate
VOC - (Volatile Organic Compound)

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical incident response training.

Prepared By	Health, Safety and Environmental Department
Creation Date	22-Sep-2009
Revision Date	05-Jun-2026
Revision Summary	SDS sections updated.

This safety data sheet complies with Regulation UK SI 2019/758 and UK SI

relates only to the specific material designated and may not be valid for such material used in combin materials or in any process, unless specified in the text

End of Safety Data Sheet