

ALFAAB22674

3-Chloro-2-methylpropene

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

产品说明:
 Product Description: 甲基烯丙基氯/3-氯-2-甲基丙烯
 3-Chloro-2-methylpropene

Cat No. : B22674
 Synonyms Methallyl chloride
 CAS No 563-47-3
 Molecular Formula C4 H7 Cl

Supplier 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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 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

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.
 Uses advised against No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State
 Liquid

Appearance
 Colorless

Odor
 pungent

Emergency Overview

Highly flammable liquid and vapor. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects. Harmful if swallowed. May be harmful in contact with skin. Harmful if inhaled. Lachrymator (substance which increases the flow of tears).

Classification of the substance or mixture

Flammable liquids.	Category 2
Acute Oral Toxicity	Category 4
Acute Dermal Toxicity	Category 5
Acute Inhalation Toxicity - Vapors	Category 4
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Skin Sensitization	Category 1
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 2

Label Elements

3-Chloro-2-methylpropene



Signal Word

Danger

Hazard Statements

H225 - Highly flammable liquid and vapor
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H411 - Toxic to aquatic life with long lasting effects
H313 - May be harmful in contact with skin
H302 + H332 - Harmful if swallowed or if inhaled

Precautionary Statements

Prevention

P243 - Take action to prevent static discharges
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P240 - Ground and bond container and receiving equipment
P241 - Use explosion-proof electrical/ ventilating/ lighting equipment
P242 - Use non-sparking tools
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product

Response

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
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
P310 - Immediately call a POISON CENTER or doctor
P330 - Rinse mouth
P331 - Do NOT induce vomiting
P372 - Explosion risk in case of fire
P374 - Fight fire with normal precautions from a reasonable distance
P380 - Evacuate area
P362 + P364 - Take off contaminated clothing and wash it before reuse

Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards

Vapors may cause flash fire or explosion. Highly flammable.

Health Hazards

Corrosive. Causes skin and eye burns. May cause an allergic skin reaction. Causes serious eye damage. Harmful if swallowed. May be harmful in contact with skin. Harmful if inhaled.

Environmental hazards

Toxic to aquatic life with long lasting effects. Will likely be mobile in the environment due to its volatility. The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces.

Other Hazards

Lachrymator (substance which increases the flow of tears)
This product does not contain any known or suspected endocrine disruptors.

3-Chloro-2-methylpropene

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
3-Chloro-2-methylpropene	563-47-3	>=90

SECTION 4. FIRST AID MEASURES

General Advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye Contact

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Call a physician immediately.

Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. Immediate medical attention is required. 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.

Ingestion

Do NOT induce vomiting. Call a physician immediately.

Most important symptoms and effects

Causes burns by all exposure routes. May cause allergic skin reaction. . Difficulty in breathing. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Notes to Physician

Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

Water.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Protective Equipment and Precautions 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

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Personal Precautions

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

Environmental Precautions

Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage.

Methods for Containment and Clean Up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE**Handling**

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

Storage

Refrigerator/flammables. Corrosives area. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and flame.

Specific Use(s)

Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control Parameters****Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS70 General methods for sampling airborne gases and vapours MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

Exposure Controls**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment. 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
Natural rubber	See manufacturers		EN 374	(minimum requirement)
Nitrile rubber	recommendations			
Neoprene				

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PVC	-
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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.

Skin and body protection	Long sleeved clothing
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: Organic gases and vapours filter Type A Brown conforming to EN14387
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 When RPE is used a face piece Fit Test should be conducted
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	Prevent product from entering drains. Do not allow material to contaminate ground water system.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless	
Physical State	Liquid	
Odor	pungent	
Odor Threshold	No data available	
pH	No information available	
Melting Point/Range	-80 °C / -112 °F	
Softening Point	No data available	
Boiling Point/Range	71 - 72 °C / 159.8 - 161.6 °F	@ 760 mmHg
Flash Point	-18 °C / -0.4 °F	Method - No information available
Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	Lower 2.2 Vol% Upper 10.4 Vol%	
Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	0.920	
Bulk Density	Not applicable	Liquid
Water Solubility	0.5 g/L (20°C)	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	log Pow	
3-Chloro-2-methylpropene	1.98	
Autoignition Temperature	540 - °C / 1004 - °F	
Decomposition Temperature	No data available	
Viscosity	No data available	

3-Chloro-2-methylpropene

Explosive Properties
Oxidizing Properties

No information available

Vapors may form explosive mixtures with air

Molecular Formula
Molecular WeightC4 H7 Cl
90.55**SECTION 10. STABILITY AND REACTIVITY****Stability**

No information available.

Hazardous Reactions
Hazardous PolymerizationNone under normal processing.
No information available.**Conditions to Avoid**

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.

Materials to avoid

Strong oxidizing agents. Strong bases.

Hazardous Decomposition Products Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen chloride gas.**SECTION 11. TOXICOLOGICAL INFORMATION****Product Information**

No acute toxicity information is available for this product

(a) acute toxicity;

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
3-Chloro-2-methylpropene	LD50 = 1149 mg/kg (Rat) LD50 = 848 mg/kg (Rat)	LD50 > 4000 mg/kg (Rat)	LC50 > 6.3 mg/L (Rat) 4 h

(b) skin corrosion/irritation;

Category 1 B

(c) serious eye damage/irritation;

Category 1

(d) respiratory or skin sensitization;**Respiratory**
SkinNo data available
Category 1

May cause sensitization by skin contact

(e) germ cell mutagenicity;

No data available

(f) carcinogenicity;

No data available

Possible cancer hazard. May cause cancer based on animal data The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
3-Chloro-2-methylpropene			Cat. 2	Group 2B

(g) reproductive toxicity;

No data available

(h) STOT-single exposure;

No data available

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(i) STOT-repeated exposure;	No data available
Target Organs	No information available.
(j) aspiration hazard;	No data available
Other Adverse Effects	The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information
Symptoms / effects, both acute and delayed	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
3-Chloro-2-methylpropene				EC50 = 154 mg/L 15 min EC50 = 154 mg/L 30 min EC50 = 154 mg/L 5 min EC50 = 347 mg/L 18 h

Persistence and Degradability	Not readily 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.

Bioaccumulative Potential	Bioaccumulation is unlikely
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Component	log Pow	Bioconcentration factor (BCF)
3-Chloro-2-methylpropene	1.98	No data available

Mobility in soil	The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. Will likely be mobile in the environment due to its volatility. Disperses rapidly in air.
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Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors
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

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. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.
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. Can be landfilled or incinerated, when in

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3-Chloro-2-methylpropene

compliance with local regulations. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms. Do not let this chemical enter the environment.

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport

UN-No UN2554
Proper Shipping Name METHYLALLYL CHLORIDE
Technical Shipping Name (3-Chloro-2-methylpropene)
Hazard Class 3
Packing Group II

IMDG/IMO

UN-No UN2554
Proper Shipping Name METHYL ALLYL CHLORIDE
Technical Shipping Name (3-Chloro-2-methylpropene)
Hazard Class 3
Packing Group II

IATA

UN-No UN2554
Proper Shipping Name METHYL ALLYL CHLORIDE
Technical Shipping Name (3-Chloro-2-methylpropene)
Hazard Class 3
Packing Group II

Special Precautions for User No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
3-Chloro-2-methylpropene	X	X	X	X	209-251-2	X	-	X	X	X	X	2015-3-6597

National Regulations

SECTION 16. OTHER INFORMATION

Prepared By Health, Safety and Environmental Department
Creation Date 22-Sep-2009
Revision Date 27-Apr-2024
Revision Summary New emergency telephone response service provider.

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Training Advice

Chemical incident response training.

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/NDL - 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

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

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

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

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

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

MARPOL - International Convention for the Prevention of Pollution from 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

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

End of Safety Data Sheet