

ALFAAA16247

## Vinyl acetate

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

**产品说明:** 醋酸乙烯酯, 含 8-12ppm 对苯二酚  
**Product Description:** Vinyl acetate

**Cat No. :** A16247  
**Synonyms** Ethenyl ethanoate; Vinyl A monomer; Ethenyl acetate  
**CAS No** 108-05-4  
**Molecular Formula** C4 H6 O2

**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

**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

**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**  
Clear

**Odor**  
sweet

#### Emergency Overview

Highly flammable liquid and vapor. Suspected of causing cancer. Sensitivity to light. May cause respiratory irritation. Harmful to aquatic life with long lasting effects. May be 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 5
Acute Dermal Toxicity	Category 5
Acute Inhalation Toxicity - Vapors	Category 4
Carcinogenicity	Category 2
Specific target organ toxicity - (single exposure)	Category 3
Chronic aquatic toxicity	Category 3

#### Label Elements

## Vinyl acetate



## Signal Word

## Danger

**Hazard Statements**

H225 - Highly flammable liquid and vapor  
 H351 - Suspected of causing cancer  
 H335 - May cause respiratory irritation  
 H412 - Harmful to aquatic life with long lasting effects  
 H332 - Harmful if inhaled  
 H303 - May be harmful if swallowed  
 H313 - May be harmful in contact with skin

**Precautionary Statements****Prevention**

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  
 P243 - Take action to prevent static discharges  
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
 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

**Response**

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
 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  
 P308 + P313 - IF exposed or concerned: Get medical advice/attention  
 P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

**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**

Suspected of causing cancer. May be harmful if swallowed. May be harmful in contact with skin. Harmful if inhaled. May cause respiratory irritation. Lachrymator (substance which increases the flow of tears).

**Environmental hazards**

Harmful 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)  
 Toxic to terrestrial vertebrates. Contains a known or suspected endocrine disruptor. Contains a substance on the National Authorities Endocrine Disruptor Lists.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Vinyl acetate	108-05-4	> 99
Hydroquinone	123-31-9	< 0.01

**SECTION 4. FIRST AID MEASURES****General Advice**

If symptoms persist, call a physician.

**Eye Contact**

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

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

**Ingestion**

Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects**

Difficulty in breathing. 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**

Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water mist may be used to cool closed containers. 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**

Flammable. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.

**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.

**SECTION 6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system.

## Vinyl acetate

**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**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. 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**

Keep in a dry place. Keep container tightly closed. Keep away from heat, sparks and flame. Protect from direct sunlight. Refrigerator/flammables. May form explosive peroxides on prolonged storage. Keep container tightly closed in a dry and well-ventilated place.

**Specific Use(s)**

Use in laboratories

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

Component	China	Taiwan	Thailand	Hong Kong
Vinyl acetate	TWA: 10 mg/m <sup>3</sup> STEL: 15 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 35 mg/m <sup>3</sup>	TWA: 10 ppm	-
Hydroquinone	TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
Vinyl acetate	TWA: 10 ppm STEL: 15 ppm	(Vacated) TWA: 10 ppm (Vacated) TWA: 30 mg/m <sup>3</sup> (Vacated) STEL: 20 ppm (Vacated) STEL: 60 mg/m <sup>3</sup>	Ceiling: 4 ppm Ceiling: 15 mg/m <sup>3</sup>	STEL: 10 ppm 15 min STEL: 35.2 mg/m <sup>3</sup> 15 min TWA: 5 ppm 8 hr TWA: 17.6 mg/m <sup>3</sup> 8 hr	TWA: 5 ppm (8h) TWA: 17.6 mg/m <sup>3</sup> (8h) STEL: 10 ppm (15min) STEL: 35.2 mg/m <sup>3</sup> (15min)
Hydroquinone	TWA: 1 mg/m <sup>3</sup>	(Vacated) TWA: 2 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>	IDLH: 50 mg/m <sup>3</sup> Ceiling: 2 mg/m <sup>3</sup>	STEL: 1.5 mg/m <sup>3</sup> 15 min TWA: 0.5 mg/m <sup>3</sup> 8 hr	

**Legend**

ACGIH - American Conference of Governmental Industrial Hygienists  
OSHA - Occupational Safety and Health Administration  
NIOSH: NIOSH - National Institute for Occupational Safety and Health

**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**

Use explosion-proof electrical/ventilating/lighting equipment. 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

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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
Butyl rubber	< 160 minutes	0.635 mm	Level 4 EN 374	Permeation rate 6 µg/cm <sup>2</sup> /min As tested under EN374-3 Determination of Resistance to Permeation by Chemicals

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** Wear appropriate protective gloves and clothing to prevent skin exposure

**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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Clear	
<b>Physical State</b>	Liquid	
<b>Odor</b>	sweet	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	7	
<b>Melting Point/Range</b>	-93 °C / -135.4 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	72 - 73 °C / 161.6 - 163.4 °F	
<b>Flash Point</b>	-8 °C / 17.6 °F	<b>Method</b> - No information available
<b>Evaporation Rate</b>	No data available	
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	<b>Lower</b> 2.6 <b>Upper</b> 14	
<b>Vapor Pressure</b>	No data available	
<b>Vapor Density</b>	No data available	(Air = 1.0)

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<b>Specific Gravity / Density</b>	0.930	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	23 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>	
Vinyl acetate	0.73	
Hydroquinone	0.59	
<b>Autoignition Temperature</b>	385 °C / 725 °F	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	No data available	
<b>Explosive Properties</b>		Vapors may form explosive mixtures with air
<b>Oxidizing Properties</b>	No information available	
<b>Molecular Formula</b>	C4 H6 O2	
<b>Molecular Weight</b>	86.09	

## SECTION 10. STABILITY AND REACTIVITY

<b>Stability</b>	May form explosive peroxides. Stable under normal conditions. Light sensitive.
<b>Hazardous Reactions</b>	None under normal processing.
<b>Hazardous Polymerization</b>	Hazardous polymerization may occur.
<b>Conditions to Avoid</b>	Keep away from open flames, hot surfaces and sources of ignition. Excess heat. Exposure to light. Incompatible products.
<b>Materials to avoid</b>	Acids. Bases. oxygen. Peroxides. Acid anhydrides. Metals.
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ).

## SECTION 11. TOXICOLOGICAL INFORMATION

## Product Information

## (a) acute toxicity;

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Vinyl acetate	LD50 = 2900 mg/kg ( Rat )	LD50 = 2335 mg/kg ( Rabbit )	LC50 = 3680 ppm ( Rat ) 4 h
Hydroquinone	LD50 = 298 mg/kg ( Rat )	LD50 = 74800 mg/kg ( Rabbit )	

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

## (d) respiratory or skin sensitization;

<b>Respiratory</b>	No data available
<b>Skin</b>	No data available

(e) germ cell mutagenicity; No data available

Not mutagenic in AMES Test

(f) carcinogenicity; Category 2

Possible cancer hazard. May cause cancer based on animal data The table below indicates

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whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Vinyl acetate				Group 2B
Hydroquinone			Cat. 2	

(g) reproductive toxicity; No data available

(h) STOT-single exposure; Category 3

Results / Target organs Respiratory system

(i) STOT-repeated exposure; No data available

Target Organs None known.

(j) aspiration hazard; No data available

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

## SECTION 12. ECOLOGICAL INFORMATION

## Ecotoxicity effects

This product contains the following substance(s) which are hazardous for the environment. Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Vinyl acetate	LC50: = 14 mg/L, 96h static (Pimephales promelas) LC50: 26.1 - 36.63 mg/L, 96h static (Poecilia reticulata) LC50: 15.04 - 21.54 mg/L, 96h static (Lepomis macrochirus)			EC50 = 2080 mg/L 5 min
Hydroquinone	LC50: 0.1 - 0.18 mg/L, 96h static (Pimephales promelas) LC50: = 0.17 mg/L, 96h (Brachydanio rerio) LC50: = 0.044 mg/L, 96h flow-through (Pimephales promelas) LC50: = 0.044 mg/L, 96h flow-through (Oncorhynchus mykiss)	EC50: = 0.29 mg/L, 48h (Daphnia magna)	EC50: = 0.335 mg/L, 72h (Pseudokirchneriella subcapitata)	EC50 = 0.038 mg/L 15 min EC50 = 0.0382 mg/L 30 min EC50 = 0.042 mg/L 5 min EC50 = 23.75 mg/L 60 min

## Persistence and Degradability

## Persistence

## Degradation in sewage treatment plant

Expected to be biodegradable

Persistence is unlikely, based on information available.

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants. However, at the concentration present, this preparation is not expected to present significant adverse environmental effects.

## Bioaccumulative Potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
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## Vinyl acetate

Vinyl acetate	0.73	No data available
Hydroquinone	0.59	40 dimensionless

**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.

**Endocrine Disruptor Information**

Component	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Vinyl acetate	Group III Chemical		

**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 compliance with local regulations.

**SECTION 14. TRANSPORT INFORMATION****Road and Rail Transport**

**UN-No** UN1301  
**Proper Shipping Name** VINYL ACETATE, STABILIZED  
**Hazard Class** 3  
**Packing Group** II

**IMDG/IMO**

**UN-No** UN1301  
**Proper Shipping Name** VINYL ACETATE, STABILIZED  
**Hazard Class** 3  
**Packing Group** II

**IATA**

**UN-No** UN1301  
**Proper Shipping Name** VINYL ACETATE, STABILIZED  
**Hazard Class** 3  
**Packing Group** II

**Special Precautions for User**

Inhibitors have been added to stabilize this product. Inhibitor levels should be maintained. Hazardous polymerization may occur upon depletion of inhibitor.

**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).



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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
Vinyl acetate	X	X	X	X	203-545-4	X	X	X	X	X	X	KE-35324
Hydroquinone	X	-	X	X	204-617-8	X	X	X	X	X	X	KE-35112

## National Regulations

Component	Toxic Chemical Substances Control Act
Vinyl acetate 108-05-4 (> 99)	Class IV (1 wt%)

## SECTION 16. OTHER INFORMATION

**Prepared By** Health, Safety and Environmental Department  
**Creation Date** 21-Sep-2009  
**Revision Date** 25-Apr-2024  
**Revision Summary** New emergency telephone response service provider.

## 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.

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**