

MATERIAL SAFETY DATA SHEET

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Version 1.4

Section 1 - Product and Company Information

Product Name VINYL ACETATE, 99+%

Product Number V1503

Brand ALDRICH

Company Sigma-Aldrich

Street Address 3050 Spruce Street

City, State, Zip, Country SAINT LOUIS MO 63103 US

Technical Phone: 314 771 5765

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Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
VINYL ACETATE	108-05-4	Yes

Formula C4H6O2

Synonyms Acetate de vinyle (French) * Acetic acid, ethenyl ester * Acetic acid, ethylene ether * Acetoxyethene * 1-Acetoxyethylene * Ethanoic acid, ethenyl ester * Ethenyl acetate * Ethenyl ethanoate * Octan winylu (Polish) * VAC * Vinile (acetato di) (Italian) * Vinylacetaat (Dutch) * Vinylacetat (German) * Vinyl acetate (ACGIH) * Vinyl acetate H.Q. * Vinyl A monomer * Vinyle (acetate de) (French) * Vinylester kyseliny octove (Czech) * Vinyl ethanoate * VYAC * Zeset T

RTECS Number: AK0875000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Flammable (USA) Highly Flammable (EU). Harmful.

Harmful by inhalation. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect.

Possible Carcinogen (US). Target organ(s): Central nervous system. Liver.

HMIS RATING

HEALTH: 2*

FLAMMABILITY: 3

REACTIVITY: 0

NFPA RATING

HEALTH: 2

FLAMMABILITY: 3

REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

FLAMMABLE HAZARDS

Flammable Hazards: Yes

EXPLOSION HAZARDS

Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

FLASH POINT

17.6 °F -8 °C Method: closed cup

EXPLOSION LIMITS

Lower: 2.6 % Upper: 13.4 %

AUTOIGNITION TEMP

427 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered

containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Keep away from heat, sparks, and open flame.
Store at 2-8°C

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Remove and wash contaminated clothing promptly. Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	STEL	15 PPM
USA	ACGIH	TWA	10 PPM
USA	MSHA Standard-air	TWA	10 PPM (30 MG/M3)
New Zealand OEL			
Remarks: check ACGIH TLV			
USA	NIOSH	Ceiling co4	PPM/15M

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	10 mg/m3
Poland		NDSch	30 mg/m3
Poland		NDSP	

Section 9 - Physical/Chemical Properties

Appearance Physical State: Clear liquid
Color: Colorless

Property	Value	At Temperature or Pressure
Molecular Weight	86.09 AMU	
pH	N/A	
BP/BP Range	71 - 73 °C	
MP/MP Range	-93 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	3 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	0.932 g/cm3	
Bulk Density	N/A	

Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	17.6 °F -8 °C	Method: closed cup
Explosion Limits	Lower: 2.6 % Upper: 13.4 %	
Flammability	N/A	
Autoignition Temp	427 °C	
Refractive Index	1.395	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Heat. Loss of inhibitor

Materials to Avoid: Acids, Bases, Oxidizing agents, Peroxides.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

STABILIZERS PRESENT

Stabilized with hydroquinone.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: May occur

Hazardous Polymerization Reactions: May polymerize on exposure to light.

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Central nervous system. Liver. Cardiovascular system.

TOXICITY DATA

Oral

Rat

2900 mg/kg

LD50

Inhalation

Rat

11,400 mg/m3
LC50

Oral
Mouse
1600 mg/kg
LD50

Inhalation
Mouse
1,550 ppm
LC50

Inhalation
Rabbit
2,500 ppm
LC50

Skin
Rabbit
2335 mg/kg
LD50

Inhalation
Guinea pig
6,200 ppm
LC50

IRRITATION DATA

Eyes
Human
22 ppm

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Species: Rat
Route of Application: Oral
Dose: 100 GM/KG
Exposure Time: 2Y
Frequency: C
Result: Tumorigenic: Carcinogenic by RTECS criteria.
Endocrine: Thyroid tumors. Tumorigenic Effects: Uterine tumors

Species: Rat
Route of Application: Inhalation
Dose: 600 PPM
Exposure Time: 6H/5D/2Y
Frequency: I
Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Olfaction: Tumors.

Species: Mouse
Route of Application: Inhalation
Dose: 600 PPM
Exposure Time: 6H/5D/2Y
Frequency: I
Result: Tumorigenic: Equivocal tumorigenic agent by RTECS

criteria. Lungs, Thorax, or Respiration:Tumors.

IARC CARCINOGEN LIST

Rating: Group 2B

CHRONIC EXPOSURE - MUTAGEN

Species: Human
Dose: 500 UMOL/L
Cell Type: lymphocyte
Mutation test: Micronucleus test

Species: Human
Dose: 250 UMOL/L
Cell Type: lymphocyte
Mutation test: Cytogenetic analysis

Species: Human
Dose: 100 UMOL/L
Cell Type: lymphocyte
Mutation test: Sister chromatid exchange

Species: Mouse
Route: Intraperitoneal
Dose: 1 GM/KG
Mutation test: Micronucleus test

Species: Mouse
Route: Intraperitoneal
Dose: 2500 MG/KG
Exposure Time: 5D
Mutation test: sperm

Species: Hamster
Dose: 62500 UG/L
Cell Type: Embryo
Mutation test: Morphological transformation.

Species: Hamster
Dose: 125 UMOL/L
Cell Type: ovary
Mutation test: Sister chromatid exchange

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 500 MG/KG/D
Route of Application: Oral
Exposure Time: (MULTIGENERATIONS)
Result: Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).

Species: Rat
Dose: 91 GM/KG
Route of Application: Oral
Exposure Time: (MULTIGENERATION)
Result: Maternal Effects: Other effects. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rat

Dose: 4770 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Maternal Effects: Other effects.

Species: Rat
Dose: 1000 PPM/6H
Route of Application: Inhalation
Exposure Time: (6-15D PREG)
Result: Maternal Effects: Other effects. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).
Specific Developmental Abnormalities: Musculoskeletal system.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Vinyl acetate, inhibited
UN#: 1301
Class: 3
Packing Group: Packing Group II
Hazard Label: Flammable liquid
PIH: Not PIH

IATA

Proper Shipping Name: Vinyl acetate, stabilized
IATA UN Number: 1301
Hazard Class: 3
Packing Group: II

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: F
Indication of Danger: Highly Flammable.
R: 11
Risk Statements: Highly flammable.
S: 16 23 29 33
Safety Statements: Keep away from sources of ignition - no smoking. Do not breathe vapor. Do not empty into drains. Take precautionary measures against static discharges.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable (USA) Highly Flammable (EU).
Harmful.
Risk Statements: Harmful by inhalation. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect.
Safety Statements: Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with

plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Statements: Possible Carcinogen (US). Target organ(s): Central nervous system. Liver.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes

DEMINIMIS: 1 %

NOTES: This product is subject to SARA section 313 reporting requirements.

TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.