

Product name	Vinyl acetate		EU/EN
MSDS number	80094	Revision Date	Nov.06.2006
Revision Number	1.01***	Issuing date	Feb.21.2007***

## **1. Identification of the substance/preparation and the company/undertaking**

Product name

**Vinyl acetate\*\*\***

**Manufacturer, importer, supplier**

Celanese Chemicals Europe GmbH  
Frankfurter Straße 111  
D-61476 Kronberg/Ts.

**Product Information**

Product Stewardship FAX +49 (0)208 693 2053\*\*\*

**Emergency telephone number**

+49 (0)69-305 6418\*\*\*

**End use:**

Chemical intermediate (including monomers), Plastic material

## **2. Composition/information on ingredients**

Components	CAS-No	EC-No.	Classification	Percent %
Vinyl acetate	108-05-4	203-545-4	F;R11	99.9 min

**Remarks**

Hydroquinone is present at 3 - 30 ppm as a polymerization inhibitor. Monomethyl ether of hydroquinone may be present upon request.\*\*\*

## **3. Hazards identification**

**Indication of danger**

Highly flammable

**R-phrases(s)**

R11 - Highly flammable.

## **4. First aid measures**

**General Information**

Remove contaminated, soaked clothing immediately and dispose of safely.

**Inhalation**

Keep at rest. Aerate with fresh air. If symptoms persist, call a physician.

**Skin**

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

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**Eyes** In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Ingestion** Call a physician immediately. Do not induce vomiting without medical advice.

**Notes to physician**

**Special hazard** lung irritation.

**Treatment** Treat symptomatically. In case of lung irritation first treatment with dexametason aerosol (spray).

## **5. Fire-fighting measures**

**Suitable extinguishing media**

foam. Dry chemical. carbon dioxide (CO<sub>2</sub>).

**Extinguishing media which must not be used for safety reasons**

Do not use a solid water stream as it may scatter and spread fire.

**Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases**

Under conditions giving incomplete combustion, hazardous gases produced may consist of

carbon monoxide

carbon dioxide (CO<sub>2</sub>)

Combustion gases of organic materials must in principle be graded as inhalation poisons

vapors are heavier than air and may spread along floors

**Special protective equipment for fire-fighters**

self-contained breathing apparatus (EN 133).

**Environmental precautions**

Water runoff can cause environmental damage. Dike and collect water used to fight fire.

**Other Information**

Cool containers / tanks with water spray.

## **6. Accidental release measures**

**Personal precautions**

Avoid contact with the skin and the eyes. Keep away from heat and sources of ignition. Provide adequate ventilation.

**Environmental precautions**

Prevent further leakage or spillage. Do not discharge into the drains/surface waters/groundwater.

**Methods for cleaning Up**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Dispose of in accordance with local regulations.

## **7. Handling and storage**

**Handling**

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**Advice on safe handling**

Provide sufficient air exchange and/or exhaust in work rooms.

**Protection - fire and explosion:**

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge. Ground and bond containers when transferring material. In case of fire, emergency cooling with water spray should be available.

**Temperature class**

T2

**Storage****Technical measures/Storage conditions**

Keep tightly closed in a dry, cool and well-ventilated place. Handle and open container with care. Store at temperatures not exceeding 30 °C/ 86 F.

**Incompatible products**

oxidizing agents. radical initiators. strong acids. amines.

**German storage class**

3A: Flammable liquids.

**8. Exposure controls / personal protection****National occupational exposure limits (Germany)****TRGS 905/907**

Components	Carcinogenic	Mutagenic	Embryonic Toxin	Toxic to reproduction
Vinyl acetate	3 ***	_***	_***	_***

**ACGIH Exposure Limits**

Components	TWA
Vinyl acetate	10 PPM***

Components	STEL
Vinyl acetate	15 PPM***

Components	1990 NIOSH IDLH	1994 NIOSH IDLH
Vinyl acetate		-

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**Engineering measures** General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

### Personal protective equipment

**General advice** Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Use only in an area equipped with a safety shower. Hold eye wash fountain available.

**Hygiene measures** When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

**Respiratory protection** respirator with A/PA filter. Full mask with above mentioned filter according to producers using requirements or self-contained breathing apparatus. Equipment should conform to EN 136 or EN 140 and EN 143.

**Eye protection** tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face. Equipment should conform to EN 166.

**skin protection** impervious clothing

### **Hand protection**

#### **Chemicals resistant gloves**

<b>Suitable material</b>	butyl-rubber
<b>Type</b>	Butylplus (Company COMASEC) or comparable article; or refer to glove manufacturer's recommendation
<b>Evaluation</b>	according to EN 374: level 4
<b>Material thickness</b>	approx 0.3 mm
<b>Break through time</b>	approx 80 min

<b>Suitable material</b>	PE/EVAL/PE
<b>Type</b>	SAFETY4 4H or comparable article; or refer to glove manufacturer's recommendation
<b>Evaluation</b>	according to EN 374: level 6
<b>Material thickness</b>	approx 0.07 mm
<b>Break through time</b>	> 480 min

## 9. Physical and chemical properties

### **Appearance**

<b>Form</b>	liquid
<b>Colour</b>	colourless
<b>Odor</b>	sweet

<b>Molecular Weight</b>	86.1
<b>Flash point</b>	-8°C
<b>Method</b>	DIN 51755

<b>Ignition temperature</b>	385°C
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Method	DIN 51794
Lower explosion limit	2.6 Vol. %
Upper explosion limit	13.4 Vol. %
Freezing point	-92.8 °C
Boiling point/range	72°C @ 1013 hPa
Density	0.93 g/ml @ 20°C
Method	DIN 51757
pH	Neutral
Viscosity	0.43 mPa*s @ 20°C, dynamic***
Method	DIN 51562
vapor pressure	120 hPa @ 20°C*** 426 hPa @ 50 °C
vapor density	2.97 (Air=1 @ 20 °C)
Water solubility	23 g/l @ 20°C
Partition coefficient (n-octanol/water)	0.73 (measured), Hansch/Leo

## 10. Stability and reactivity

Stability	Stable under normal conditions of handling, use and transportation.
Conditions to avoid	Avoid any source of ignition. Avoid contact with heat, sparks, open flame, and static discharge.
Materials to avoid	oxidizing agents, peroxides, strong acids, strong bases.
Thermal decomposition	No decomposition if used as directed. If heated to thermal decomposition the following decomposition products may occur depending on the conditions. carbon oxides.
Hazardous reactions	Violent polymerization can occur. Polymerization is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers.

## 11. Toxicological information

Vinyl acetate	
Oral	LD50: 2920 mg/kg, rat
Dermal	LD50: 2335 mg/kg, rabbit
Inhalation	LC50: 4000 ppm, rat, 4h
Skin irritation	Mild skin irritation
	Species
	rabbit
	Method
	OECD 404
Skin Sensitization	nonsensitizer

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	Species	mouse
	Method	OECD 429
<b>Eye Irritation</b>		Mild eye irritation
	Species	rabbit eye
	Method	OECD 405
<b>Carcinogenic effects</b>		squamous cell carcinoma at a dose level of 600 ppm in the nasal tract
	Species	rats
	Study	inhalation study
		NOAEL: 50 ppm
<b>Carcinogenic effects</b>		squamous cell carcinoma at a dose level of 10,000 ppm in the upper digestive tract
	Species	rats and mice
	Study	2 year drinking water study
		NOAEL: 400 ppm
<b>in vitro Mutagenicity</b>		Ames test - negative
		Human lymphocyte chromosome aberration - positive
		CHO cell sister-chromatid-exchange (SCE) - positive
<b>Reproductive toxicity</b>		Adverse reproductive effects in a multi-generation study at a dose level of 5000 based on significantly reduced average litter weight and maternal body weight
	Routes of exposure	oral drinking water
	Species	rat
		NOAEL= 1000 ppm
<b>Developmental effects</b>		no malformations at a dose level of 1000 ppm
	Routes of exposure	Inhalation
	Species	rat
		NOAEL: 200 ppm
<b>Developmental effects</b>		No significant adverse effect at a dose level of 5000 ppm***
	Routes of exposure	oral drinking water
	Species	rat
		NOAEL: 1000 ppm
<b>Repeated exposure</b>		90-day study resulted in a decrease in body weight and an increase in lung weights at a dose of 5000 ppm
	Routes of exposure	oral drinking water
	Species	rats
		NOAEL: 1000 ppm
<b>Repeated Exposure</b>		90-day study resulted in a decrease in body weight and an increase in lung weights at a dose of 1000 ppm
	Routes of exposure	Inhalation
	Species	rats
		NOAEL: 200 ppm

## 12. Ecological information

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**Vinyl acetate****Toxicity to fish**

Species

LC50: 19 mg/l (96h)

Pimephales promelas (Fathead minnow)

LC50: 18 mg/l (96h)

Species

Lepomis macrochirus (Bluegill sunfish)

**Toxicity to daphnia**

Species

EC50: 12.6 mg/l (48h)

Daphnia magna

**Toxicity to algae**

Species

EC50: 8.8 mg/l (72h)

Selenastrum capricornutum (green algae)

**Toxicity to bacteria**

EC50: 6.0 mg/l

**Biodegradation**

51 - 62 % (5d)

**Bioconcentration factor (BCF)**

2

**Bioaccumulation**

Bioaccumulative potential - low

### **13. Disposal considerations**

**Product information**

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

**Uncleaned empty packaging**

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

### **14. Transport information**

**ADR/RID**

UN/ID No.	UN 1301
Proper Shipping Name	Vinyl Acetate, stabilized
Hazard Class	3
Packing group	II
Hazard Number	339

**ADNR**

ADNR: Container and Tanker

UN/ID No.	UN 1301
Proper Shipping Name	Vinyl Acetate, stabilized
Hazard Class	3
Packing group	II

**ICAO/IATA**

UN-No.	UN 1301
Proper Shipping Name	Vinyl Acetate, stabilized
Hazard Class	3
Packing group	II

**IMDG**

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## **14. Transport information**

UN/ID No.	UN 1301
Proper Shipping Name	Vinyl Acetate, stabilized
Hazard Class	3
Packing group	II
EmS Code	F-E, S-D

## **15. Regulatory information**

### **Labelling in accordance with EC directives**

EC label

**Contains** Vinyl acetate

**Symbol(s)** F - Highly flammable.

**R-phrases(s)**  
R11 - Highly flammable.

**S-phrase(s)**  
S16 - Keep away from sources of ignition - No smoking.  
S23.2 - Do not breathe vapour.  
S29 - Do not empty into drains.  
S33 - Take precautionary measures against static discharges.

**Directive 1996/82/EC** Annex I, part 2:  
No 7b\*\*\*

**Water Hazard Class (WGK):**  
**WGK Class** 2  
**WGK Reg-Nr.** 203  
**WGK Source** Classification according to VwVwS, Annex 1 or 2

Vinyl acetate 108-05-4

**Directive 76/769/EEC** Listed.\*\*\*

**Directive 98/24/EC** Listed.\*\*\*

## **16. Other information**

### **R-phrases(s)**

R11 - Highly flammable.

### **For further information, see:**

For more information, other material safety data sheets or technical data sheets please consult the Celanese homepage ([www.celanese.com](http://www.celanese.com)).



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**Other Information:**

Observe national and local legal requirements.

Changes against the previous version are marked by \*\*\*

**Sources of key data used to compile the datasheet**

Information contained in this safety data sheet is based on Celanese owned data and public sources deemed valid or acceptable. The absence of data elements required by ANSI or 2001/58/EC indicates, that no data meeting these requirements is available.

**Further information**

This information is based on our present state of knowledge. It shall describe our products regarding safety requirements and shall not be construed as a guarantee or statement of condition and/or quality