



INTERNATIONAL VINYLACETATE COMPANY

MATERIAL SAFETY DATA SHEET VINYLACETATE MONOMER

1. PRODUCT MANUFACTURER INFORMATION

Product Name Vinyl Acetate Monomer (CH₃COOCH=CH₂)
Manufacturer International Vinyl acetate Company (IVC)
P O Box 12021
Post Code 31961
Jubail Industrial City
Kingdom of Saudi Arabia
Emergency Telephone No 00 966-359 9985 (24 hours)
ID No UN1301
Company (affiliate) website <http://sipchem.com/en/affiliates.htm>

2. HAZARDOUS COMPONENTS

Trace Impurities: Purity: 99.90% minimum 108-05-04
Acetaldehyde 100ppm Max., Acetic acid: 50ppm Max, Water 400ppm Max,
Appearance Clear and free of suspended matter, Colour, Max 5 ALPHA,
Distillation Range 72.3 TO 73.1C

3. PRODUCT INFORMATION

Product Name VINYL ACETATE MONOMER (CH₃COOCH=CH₂)
Trade Name/Synonyms Acetic acid Vinyl Ester, Vinyl Acetate HQ, VAM, Ethenyl Ester
U.N. Number 1301
Product Use Widely used in polyvinyl acetate, adhesives, floor tiling, water-based emulsion paints, and elastomers.

4. FIRST AID INFORMATION

Skin In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reuse.
Eye In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Ingestion If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

POTENTIAL HEALTH EFFECTS

Target Organs Eyes, skin, respiratory system, central nervous system (CNS), cardiovascular system, liver

Entry Routes Inhalation, skin contact, eye contact, ingestion

Inhalation The vapor is discomforting to the upper respiratory tract. Inhalation hazard is increased at higher temperatures. Acute effects from inhalation of high vapor concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea. If exposure to highly concentrated solvent atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and possible death. Human volunteers exposed for 0.5 to 4 hours at 19.5 to 71.5 ppm of vinyl acetate reported respiratory tract irritation.

Eye: Contact with liquid Vinyl Acetate may cause severe eye irritation with discomfort, tearing, or blurring of vision.

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Skin:	The liquid is discomforting to the skin and is capable of causing blisters or burns if exposure is prolonged and may cause in some cases, sensitization. Sensitization may result in allergic dermatitis responses including rash, itching, hives or swelling of extremities. Sensitization reactions may appear suddenly after repeated symptom free exposures.
Ingestion:	Considered an unlikely route of entry in commercial/industrial environments. The liquid is highly discomforting and harmful if swallowed.
Exposure Limits	PEL (OSHA) : None Established TLV (ACGIH) : 10 ppm, 35 mg/m ³ , 8 Hr. TWA, A3 STEL 15 ppm, 53 mg/m ³ , A3 AEL * (DuPont) : 10 ppm, 8 & 12 Hr. TWA
Long Term Effects	Prolonged exposure to liquid Vinyl acetate may cause local irritation at the site of exposure, Allergic reaction and local irritation of the skin. Individuals with preexisting diseases of the lungs have increased susceptibility to toxicity of excessive exposures.
Teratogenicity	No
Mutagenicity	No
Carcinogenicity	NTP - Not listed; IARC - Group 3, Not classifiable as to carcinogenicity humans; OSHA - No listed; NIOSH - Not listed; ACGIH - Class A3, Animal carcinogen; EPA - Not listed; MAK - Class B, Justifiably suspected of having carcinogenic potential.

5. FIRE FIGHTING MEASURES

Fire hazards	Liquid and vapor are highly flammable. Severe fire hazard when exposed to heat, flame and/or oxidizers. Vapor forms an explosive mixture with air. Severe explosion hazard from of vapor, when exposed to flame or spark. On combustion, may emit toxic fumes of carbon monoxide (CO) and CO ₂ , Reacts vigorously with oxidizing agents, strong acids, strong alkalis, peroxides.
Fire-Fighting	Extinguishing media like Alcohol stable foam; dry chemical powder; carbon dioxide. Water spray or fog - Large fires only. Avoid spraying water onto liquid pools. Wear self-contained breathing apparatus. Wear full protective equipment.

6. ACCIDENTAL RELEASE MESURES

Flash Point	-8 C, Closed Cup
Auto ignition	402C
Explosive Limit	LEL: 2.6% v/v to UEL: 13.4% v/v
Extinguishing Media	Extinguishing media like dry chemical powder, carbon dioxide. Water spray or fog for Large fires only. If safe to do so, switch off electrical equipment (unless vapor fire hazard is as a fine spray) to control the fire and cool adjacent area.

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7. HANDLING AND STORAGE

Storage	Store in a well ventilated place. Keep container tightly closed. Store in accordance with National Fire Protection Association recommendations. Inhibitor level should be checked every three months and maintained at original level to avoid Polymerization.
Handling	Avoid generating and breathing mist. Avoid all personal contact, including inhalation. Wear protective clothing. Use in a well-ventilated area. Keep away from heat, sparks and flames.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls	Use in well ventilated area. Local exhaust ventilation usually required. If risk of overexposure exists, wear NIOSH approved respirator.
Gloves	PVC gloves or rubber gloves or Neoprene gloves and Barrier cream Protective footwear.
Respiratory	A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstance where airborne concentrations are expected to exceed exposure limited. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection.
Eye	Wear overall chemical splash goggles and/or face shield. DO NOT wear contact lenses. Contact lenses pose a special hazard; soft contact lenses may absorb irritants and all contact lenses concentrate them.
Clothing	Wear chemical resistant clothing, such as gloves, apron, boots or whole bodysuit made from Neoprene, as appropriate. Fire retardant clothing of nomex is highly recommended.

9. PHYSICAL AND GHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear highly flammable liquid.
Specific Gravity	0.934 at 25 C
Freezing Point	-93.2 C
Boiling Point	72.7 C
Vapour Pressure kPa	15.33 at 25 C
Vapour Density (air=1)	3
Molecular Weight	86.09
Volatility % v/v	100%

10. STABILITY AND REACTIVITY

Vinyl Acetate	Yes
Incompatible with	Incompatible with initiators such as peroxides, reducing and oxidizing agents, strong mineral acids and bases.
Conditions of Reactivity	Chemical Stability: Stable at normal temperatures and storage conditions.



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Conditions to Avoid: Avoid exposure to heat, specifically temperatures above 36 deg C, sparks ultraviolet radiation.

Decomposition: Hazardous gases or vapors can be released, including carbon monoxide, carbon dioxide, and, hydrocarbon oxidation products, including, organic acids, aldehydes, alcohols, acetic acid, and, acetaldehyde.

Polymerization: Polymerization can occur. Conditions leading to polymerization are heat or initiators. Mixing vinyl acetate with caustic materials or peroxides can lead to exothermic polymerization and possible explosion and violent rupture of container. Other Hazards: CAUTION! Inadvertent mixing with caustic solutions (sodium hydroxide) can lead to exothermic reaction and possible explosion.

11. TOXICOLOGICAL INFORMATION

Vinyl Acetate

Animal Data

Inhalation 4 hour LC50: 4000 ppm in rats

Skin absorption LD50: 2335 mg/kg in rabbits

Oral LD50: 2920 mg/kg in rats

Vinyl Acetate is a slight skin and a severe eye irritant, and a weak skin sensitizer in animals.

No effects from repeated exposure to Vinyl Acetate by inhalation were observed at 100 ppm in rats. Exposure to higher concentrations of Vinyl Acetate by inhalation caused eye irritation, lacrimation, and irritation of the respiratory tract with breathing difficulty. The effects observed in rats and mice exposed by inhalation to 200 and 600 ppm for two years include reduced body weight, and pathological changes in the nose and respiratory tract. Nasal cavity tumors were observed in rats but not in mice. Research on the mechanism of nasal tumor induction in rats suggests that levels at which humans are likely to be exposed are below the threshold for effects that contribute to tumor formation. Drinking water studies suggest Vinyl Acetate may be weakly carcinogenic at high concentrations in rats and mice. In one study, reduced body weight, but no tumors, occurred in rats administered 5000 ppm Vinyl Acetate in their drinking water for two years. In contrast, preliminary results from other drinking water studies with Vinyl Acetate at 5000 ppm or higher show an increased incidence of oral cavity and upper digestive tract tumors in rats and mice. Vinyl Acetate is not a developmental toxin in animals. The effect of Vinyl Acetate in animals on reproduction is not considered significant. Genetic damage was produced in some types of cell cultures and in animals, but was negative in other studies. No tests for heritable genetic damage were available.

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY: 96 hour LC50 - Fathead minnows: 24 mg/L

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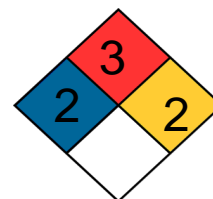
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13. DISPOSAL CONSIDERATIONS

Spill	Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact by using protective equipment. Contain and absorb small quantities with vermiculite or other absorbent material
Disposal	Consult manufacturer for recycling options and recycle where possible. Follow applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

Shipping Name	Vinyl Acetate Inhibited
Hazard Class	3.2
ID No	UN1301
Packing Group	II
Label	Flammable Liquid
NFPA Rating	Health=2, Flammability=3, Reactivity=2



15. REGULATORY INFORMATION

Regulations vary from country to country, Anyone who uses, transports or stores this product should refer to country specific regulations. Following are a few sample regulations for reference only:

U.S. Federal Regulations TSCA Inventory Status: In compliance with TSCA Inventory requirements for commercial purposes. Superfund reportable discharge = 5000 lb.

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute: Yes

Chronic: Yes

Fire: Yes

Reactivity: Yes

Pressure: No

Vinyl Acetate is a TITLE III Extremely Hazardous Substance. (RQ-5000); (THPQ-1000).

State Regulations (U.S.)

STATE RIGHT-TO-KNOW

No substances on the state hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Datasheet, with the exceptions indicated. Substances on the pennsylvania hazardous substances list present at a concentration of 1 % or more (0.01% for special hazardous substances) - vinyl acetate.

WARNING - substances known to the state of California to cause cancer, birth defects or other reproductive harm- none known substances on the New Jersey workplace hazardous substance list present at concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens) - vinyl acetate

16. OTHER INFORMATION

The information and recommendations herein are taken from data contained in independent, industry recognized references. Although reasonable care has been taken in the preparation of the information



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