

Material Safety Data Sheet

Date Printed: 16/DEC/2004

Date Updated: 28/JUN/2004

Version 1.4

According to 91/155/EEC

1 - Product and Company Information

Product Name	METHYL ACETATE, FOR HPLC
Product Number	45999
Company	Sigma-Aldrich Pte Ltd #08-01 Citilink Warehouse Singapore 118529 Singapore
Technical Phone #	65 271 1089
Fax	65 271 1571

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
METHYL ACETATE	79-20-9	201-185-2	607-021-00-X

Formula	C3H6O2
Molecular Weight	74.08 AMU
Synonyms	Acetate de methyle (French) * Devoton * Ethyl ester of monoacetic acid * Methylacetaat (Dutch) * Methylacetat (German) * Methyl acetate (ACGIH:OSHA) * Methyle (acetate de) (French) * Methylester kiseline octove (Czech) * Methyl ethanoate * Metile (acetato di) (Italian) * Octan metylu (Polish) * Tereton

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Highly flammable. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.

4 - First Aid Measures

AFTER INHALATION

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

AFTER SKIN CONTACT

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

AFTER EYE CONTACT

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

AFTER INGESTION

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

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

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

SPECIAL RISKS

Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

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

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SPECIFIC METHOD(S) OF FIRE FIGHTING

Use water spray to cool fire-exposed containers.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, 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.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep container closed. Keep away from heat, sparks, and open flame. Handle and store under nitrogen.

SPECIAL REQUIREMENTS: Moisture sensitive.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

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

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	250 MG/M3

Poland	NDSch	600 MG/M3
Poland	NDSP	-
EXPOSURE LIMITS - DENMARK		
Source	Type	Value
OEL	TWA	455 mg/m3
		150 ppm
EXPOSURE LIMITS - GERMANY		
Source	Type	Value
TRGS 900	OEL	610 mg/m3
Remarks: 4		
Remarks: Y		
EXPOSURE LIMITS - NORWAY		
Source	Type	Value
	OEL	305 mg/m3
		100 ppm
EXPOSURE LIMITS - SWEDEN		
Source	Type	Value
	LLV (Level	450 mg/m3
		150 ppm
EXPOSURE LIMITS - SWITZERLAND		
Source	Type	Value
OEL	OEL	610 mg/m3
		200 ppm
Remarks: C*		
EXPOSURE LIMITS - UNITED KINGDOM		
Source	Type	Value
OEL	OEL	616 mg/m3
		200 ppm
OEL	STEL	770 mg/m3
		250 ppm

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Clear liquid Color: Colorless	
Property	Value	At Temperature or Pressure
pH	3.9	20 °C Concentration: 300 g/l
BP/BP Range	56 - 58 °C	
MP/MP Range	-98 °C	
Flash Point	-10 °C	
Flammability	N/A	
Autoignition Temp	502 °C	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 3.1 % Upper: 16 %	
Vapor Pressure	165 mmHg	20 °C
SG/Density	0.934 g/cm3	

Partition Coefficient	Log Kow: 0.18	
Viscosity	0.381 Pas	20 °C
Vapor Density	2.55 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	24 mN/m	20 °C
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water:Soluble. Other Solvents: MISCIBLE WITH ALCOHOL, ETHER SOLUBLE IN BENZENE, ACE	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Moisture.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: AI9100000

ACUTE TOXICITY

LD50
Oral
Rat
> 5000 mg/kg

LD50
Oral
Rabbit
3705 mg/kg

LD50
Skin
Rabbit
> 5000 mg/kg

LD50
Intraduodenal
Rabbit
3700 MG/KG

IRRITATION DATA

Skin
Rabbit
500 mg
24H
Remarks: Mild irritation effect

Skin
Rabbit
20 mg
24H
Remarks: Moderate irritation effect

Eyes
Rabbit
100 mg
24H
Remarks: Moderate irritation effect

SIGNS AND SYMPTOMS OF EXPOSURE

Exposure can cause: Narcotic effect. This product is metabolized into formic acid. Humans and other primates metabolize formic acid more slowly than do rodents. Formic acid can build up in the body producing toxic effects possibly leading to death; therefore, data from studies in rodents may have limited relevance for human risk assessment.

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes eye irritation.
Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

TARGET ORGAN INFORMATION

Eyes. Kidneys. Central nervous system.

12 - Ecological Information

ECOTOXICOLOGICAL EFFECTS

Test Type: IC50 Algae
Time: 72 h
Value: > 120 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 24 h
Value: 700 - 1,000 mg/l

Test Type: LC50 Fish
Species: Brachydanio rerio
Time: 96 h
Value: 250 - 350 mg/l

Test Type: LC50 Fish
Species: Pimephales promelas (Fathead minnow)
Time: 48 h
Value: 378 - 422 mg/l

13 - Disposal Considerations

SUBSTANCE DISPOSAL

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.

14 - Transport Information

RID/ADR

UN#: 1231
Class: 3
PG: II
Proper Shipping Name: Methyl acetate

IMDG

UN#: 1231
Class: 3
PG: II
Proper Shipping Name: Methyl acetate
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 1231
Class: 3
PG: II
Proper Shipping Name: Methyl acetate
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 607-021-00-X

INDICATION OF DANGER: F Xi

Highly Flammable. Irritant.

R-PHRASES: 11 36 66 67

Highly flammable. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.

S-PHRASES: 16 26 29 33

Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Do not empty into drains. Take precautionary measures against static discharges.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 1

SWITZERLAND

SWISS POISON CLASS: 3

NORWAY

Labelling for organic solvents where the package is 1liter or more.

YL-tall m3/l: 6098

YL-group: 5

Risk phrases: 20

Harmful by inhalation.

Safety phrases: 38 42 210

In case of insufficient ventilation, wear suitable respiratory equipment. During fumigation/spraying wear suitable respiratory equipment. Use compressed air- or fresh air line breathing apparatus in confined spaces.

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.

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