

Material Safety Data Sheet

Date Printed: 16/DEC/2004

Date Updated: 02/JUL/2004

Version 1.5

According to 91/155/EEC

1 - Product and Company Information

Product Name METHYL ACRYLATE, STANDARD FOR GC
Product Number 76778

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 ACRYLATE, STABILIZED	96-33-3	202-500-6	607-034-00-0

Formula C4H6O2

Molecular Weight 86.09 AMU

Synonyms Acrylate de methyle (French) *
Acrylsaeuremethylester (German) * Curithane 103
* Methoxycarbonylethylene * Methylacrylaat
(Dutch) * Methyl-acrylat (German) * Methyl
acrylate (ACGIH:OSHA) * Methylester kyseliny
akrylove (Czech) * Methyl propenate * Methyl
propenoate * Methyl-2-propenoate * Metilacrilato
(Italian) * 2-Propenoic acid, methyl ester (9CI)

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact.

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 skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

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

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

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

Unsuitable: Do not use water.

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 can occur under fire conditions. In advanced or massive fires the area should be evacuated and the fire should be fought from a remote explosion-resistant location.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

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

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 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.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed. Keep away from heat, sparks, and open flame.

SPECIAL REQUIREMENTS: Light 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	20 MG/M3
Poland		NDSch	70 MG/M3
Poland		NDSP	-

EXPOSURE LIMITS - DENMARK			
	Source	Type	Value
	OEL	TWA	7 mg/m3 2 ppm

EXPOSURE LIMITS - GERMANY			
	Source	Type	Value
	TRGS 900	OEL	18 mg/m3 5 ppm

Remarks: =1=

EXPOSURE LIMITS - NORWAY			
	Source	Type	Value
		OEL	35 mg/m3 10 ppm

Remarks: AH

EXPOSURE LIMITS - SWEDEN			
	Source	Type	Value
		LLV (Level	35 mg/m3 10 ppm

Remarks: H, S

EXPOSURE LIMITS - SWITZERLAND			
	Source	Type	Value
	OEL	OEL	18 mg/m3 5 ppm

Remarks: S

EXPOSURE LIMITS - UNITED KINGDOM			
	Source	Type	Value
	OEL	OEL	36 mg/m3 10 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	N/A	
BP/BP Range	78 - 81 °C	
MP/MP Range	-75 °C	
Flash Point	-3 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	468 °C	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 2.1 % Upper: 14.5 %	

Vapor Pressure	86.6 mmHg	25 °C
SG/Density	0.955 g/cm3	
Partition Coefficient	Log Kow: 0.74	
Viscosity	0.5 Pas	25 °C
Vapor Density	3 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	24.2 mN/m	20 °C
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water:50 mg/ml H2O, 20°C	

10 - Stability and Reactivity

STABILITY

Conditions to Avoid: Heat. May polymerize on exposure to light.

Materials to Avoid: Oxidizing agents, Peroxides.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

STABILIZERS PRESENT

Inhibited with 100 ppm hydroquinone monomethyl ether (MEHQ).

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: AT2800000

ACUTE TOXICITY

LD50

Oral

Rat

277 mg/kg

LC50

Inhalation

Rat

1,350 ppm

4H

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other. Lungs, Thorax, or Respiration:Dyspnea.

LD50

Intraperitoneal

Rat

325 MG/KG

LD50

Oral

Mouse

827 mg/kg

LC50
Inhalation
Mouse
12,800 mg/m3

LD50
Intraperitoneal
Mouse
254 MG/KG

LD50
Skin
Rabbit
1243 mg/kg

IRRITATION DATA

Eyes
Rat
578 ppm
49H
I

Skin
Rabbit
100 %
1M

Skin
Rabbit
10 mg
24H
Remarks: Open irritation test

Eyes
Rabbit
100 mg
Remarks: Severe irritation effect

Eyes
Rabbit
100 mg
24H
Remarks: Moderate irritation effect

SENSITIZATION

Skin: May cause allergic skin reaction.

SIGNS AND SYMPTOMS OF EXPOSURE

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Prolonged exposure can cause: Lung irritation, chest pain, and edema which may be fatal.

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.
Skin Absorption: Harmful if absorbed through skin.
Eye Contact: Causes eye irritation. Lachrymator.
Inhalation: Harmful if inhaled. Vapor or mist is irritating to the mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC CARCINOGEN LIST

Rating: Group 3

CHRONIC EXPOSURE - MUTAGEN

Mouse
37500 UG/KG
Intraperitoneal
Micronucleus test

Mouse
22 MG/L (+S9)
Cell Type: lymphocyte
Mutation in microorganisms

Mouse
22 MG/L
Cell Type: lymphocyte
Cytogenetic analysis

Mouse
14 MG/L
Cell Type: lymphocyte
Mutation in mammalian somatic cells.

Hamster
189 PPM
Cell Type: fibroblast
Cytogenetic analysis

Hamster
6500 UG/L
Cell Type: lung
Cytogenetic analysis

12 - Ecological Information

ECOTOXICOLOGICAL EFFECTS

Test Type: EC50 Algae
Species: Scenedesmus subspicatus
Time: 72 h
Value: 15 mg/l

Test Type: EC50 Algae
Time: 24 h
Value: 55 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: 2.2 mg/l

Test Type: LC50 Fish
Species: Carassius auratus (Goldfish)
Time: 72 h

Value: 4.95 mg/l

Test Type: LC50 Fish
Species: Leuciscus idus
Time: 48 h
Value: 7.5 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#: 1919
Class: 3
PG: II
Proper Shipping Name: Methyl acrylate, inhibited

IMDG

UN#: 1919
Class: 3
PG: II
Proper Shipping Name: Methyl acrylate, inhibited
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 1919
Class: 3
PG: II
Proper Shipping Name: Methyl acrylate, stabilized
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 607-034-00-0

NOTA: D

INDICATION OF DANGER: F Xn

Highly Flammable. Harmful.

R-PHRASES: 11 20/21/22 36/37/38 43

Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact.

S-PHRASES: 9 25 26 33 36/37 43

Keep container in a well-ventilated place. Avoid contact with eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges. Wear suitable protective clothing and gloves. In case of fire, use dry powder. Never use water.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 2

SWITZERLAND

SWISS POISON CLASS: 3

NORWAY

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

YL-tall m3/l: 38000

YL-group: 5

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.

16 - Other Information

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.

DISCLAIMER

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